



1990 VISION 2020

Committee on the Future

- *Education*
- *Natural Environment*
- *Transportation*
- *Government Structure*

— Chesterfield County, Virginia —

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SECTION I

BUILDING CONSENSUS FOR THE FUTURE--AN INTRODUCTION TO CHESTERFIELD COUNTY'S VISION FOR THE YEAR 2020 PROCESS

Introduction

In the face of unabated, rapid population growth and land development during the 1980s, Chesterfield County, in its 1987 Charter, adopted an innovative approach to citizen involvement in the long-range planning process for the County. The County Charter, under its Section 7.5, recommended creation of the Chesterfield County Committee on the Future (the Committee) as a permanent body composed of 10 members representing the County's five magisterial districts. The Committee members serve at the pleasure of the Board.

The formation of the Committee as a permanent, free-standing body of the County government charged to address long-range planning issues is perhaps unique in the nation and certainly unique in the Commonwealth of Virginia. As such, it is a progressive approach and commitment to long-range planning for the County.

Mission of the Committee on the Future

As stated in the Chesterfield County Charter, the primary objectives of the Committee are to:

forecast the condition of the County in the future and [the] means by which the County can cope with future needs or problems that are likely to occur in the future. The Committee shall seek to anticipate long-range problems and changes within the County and develop solutions that can be considered by elected officials to lessen any adverse effect on the County of future changes.

The Charter does not limit the scope of the Committee's work to any current problem or issue facing the County, and the Committee has been free to develop its own structure, process, procedures and agenda. The 10-member Committee, appointed by the County Board of Supervisors in September 1988, is composed of County residents representing a variety of professional backgrounds and community interests. The Committee first met in September 1988, and has been meeting on a regular basis since that time.

An important purpose statement adopted early by the Committee, underpinning its mission "to expand thinking beyond present-day limitations," clearly pivots the Committee toward a futuristic orientation, rather than toward addressing current-day issues

facing the County. Following the intent of the Charter, the Board of Supervisors asked the Committee to view the future in terms of a time horizon of 20 to 30 years.

The Committee's Early Efforts

"Growth of the County" was a driving concern of the Committee's initial deliberations. Over the course of many early planning sessions, growth-related issues were identified by the Committee through a scan of the County's current environment. The Committee recognized that the dramatic increase in population is placing increasingly serious pressures on many aspects of the County: from the general quality of life, to the provision of basic public services, to the capacity of the government structure to address and mitigate growth impacts. The ability of the County to address these current and emerging pressures of growth was critical to the Committee's thinking about its chartered mandate.

In setting its priorities for 1990, the Committee examined the strengths and weaknesses currently evident in the County, and the opportunities and threats that seem to exist today. From this analysis of existing conditions, trends and circumstances, a broad list of priority topics was established and subsequently narrowed to a manageable list of five issues as the priority items for formal strategic evaluation and citizen inputs in 1990: education, government structure, environment, transportation and growth. As a result of subsequent discussions, "growth" was removed as a distinct topic and made an underlying element for each of the other four priority topics.

Thus, following 18 months of initial internal planning supported by a staff planner, the Committee identified the priority items for expanded attention and focus. The 1990 planning effort would be called "Vision 2020." Having arrived at this foundation for an in-depth planning process, the Committee decided to solicit the help of an outside consulting firm. The objective was to execute a planning effort that was analytical and emphasized local citizen/leadership participation and input.

The Committee prepared a request for proposals (RFP) and following a formal selection process, the firm of Economics Research Associates (ERA) was selected to work with the Committee in the implementation of the 1990 Vision 2020 planning process.

The 1990 Vision 2020 Planning Process

The overall purpose of the Vision 2020 planning process for 1990 was for the Chesterfield County Committee on the Future to manifest its planning mandate by engaging in a public process that would examine education, the natural environment, transportation and government structure for the County in the year

2020, and create both broad visions as well as strategic actions to achieve those visions.

In essence, the 1990 planning process was to identify the challenges facing the County in the areas of education, natural environment, transportation and government structure, and to recommend to the Committee and elected officials solutions and strategies concerning each of the four priority areas. Specifically, the consulting firm of Economics Research Associates was charged to:

- obtain and facilitate public input through appropriate forums in the long-range planning areas affecting Chesterfield County as to natural environment, transportation, education and government structure;
- identify significant issues facing Chesterfield in the mid-term (15 years) and the long-term (30 years) future in the above-mentioned areas;
- review current strategies, along with an assessment of their effectiveness, that other communities around the country are using to meet these issues;
- summarize alternative approaches to meeting identified issues; and
- develop a long-range strategic plan which includes implementation recommendations based upon the findings in the above steps.

With this document, the Committee plans to disseminate the findings of these efforts, with a view to soliciting and receiving additional comments and inputs from the citizens of Chesterfield County. The planning process initiated by the Committee in 1990 was the first external effort of the Committee to expand the scope of input and participation to include key representatives of community interests through interviews and creative interactive working sessions. It is hoped that 1990 will serve as a model for the planning activities in subsequent years that will focus on other selected priority issues.

Research and the Participatory Planning Process

The 1990 Vision 2020 planning study was commissioned in early August of 1990, and got underway in mid-September. In light of the planning study objectives, the research and public participatory process consisted of three distinct but interrelated steps:

- creative group interaction;
- personal interaction; and
- ongoing technical research and analysis.

Creative Group Interaction. The participatory planning process included a number of opportunities for creative input, consensus-building and decision-making by individuals working collaboratively in group settings. Specifically, the consultant team facilitated two working sessions with the Committee, four sessions with community resources (each session focused on one of the four identified priority topics), and a leadership retreat with prominent community leaders.

Personal Interaction. Inputs were solicited through one-on-one personal interviews of the Board of Supervisors, County administrators, Committee members, heads of relevant public agencies, and a variety of other public and private leaders from business, civic and other community interests.

Ongoing Technical Research. Local and external research was conducted throughout the planning process. It involved collection and analysis of appropriate quantitative data, and review of a large number of local documents, reports, previous planning studies, issue papers and the like. External research involved review of successful case studies and strategies employed by other communities, as well as a review of key resource documents and publications pertinent to each of the four topical areas of focus for the initial 1990 vision planning process.

As the process unfolded, the interactive planning sessions, personal interviews and technical research were undertaken concurrently, and findings interwoven into a synthesized set of vision and strategy statements. The technical research components provided source information for the interactive planning sessions, and the interactive planning sessions identified additional targeted technical research.

The Sequence of the Planning Process

The work program for the 1990 Chesterfield County vision planning process was completed along a sequential path, where each work element built upon the previous element and where each component had its own respective relationship to participation of the Committee and other community interests. Specific work elements were implemented in the following sequential order:

1. Interactive orientation session with the Committee.
2. Recruitment of community interests.
3. Ongoing technical research and analysis.
4. First Committee creative vision work session.
5. Focused group sessions with community resources.
6. Leadership retreat.
7. Follow-up meeting with the consultant team leader.

Interactive Orientation Session with the Committee. In August 1990, the consultant team facilitated a half-day interactive session with the Committee, the purpose of which was to establish a clear and unified understanding among the Committee members and the consultants regarding:

- the purpose, nature, intent, and anticipated outcomes of the planning study to be undertaken;
- the roles and responsibilities of all participants in the planning process;
- schedules and logistics of forthcoming planning activities and events; and
- guidelines and criteria for the selection and recruitment of process participants ensuring a broad-based representation of community interests and special, knowledgeable resource individuals.

Recruitment of Community Interests. Following the orientation session, the Committee members recruited specific individuals and representatives of organizations to participate in the planned interactive sessions. Participants were asked to provide their input at one of two interactive forums as follows:

- half-day sessions with community resources (experts and opinion leaders), one session for each of the four topic areas, with an attendance target set at 30 to 35 invited individuals for each session; and
- a two-day leadership retreat with an attendance target set at between 40 and 50 individuals, exclusive of the Committee members and consultant team.

Ongoing Technical Research and Analysis. As previously indicated, technical research was undertaken by the consultants throughout the planning process, with analytical findings interwoven into the interactive planning events. Technical research encompassed the following activities:

- a strategic review of development trends in the County (both general trends and trends related specifically to the four selected planning topics), and a review of past documents, reports and special studies;
- one-on-one interviews with selected officials, County administrators, Committee members, heads of relevant public agencies, and a variety of other public and private leaders from business, civic, and other community interests; and

- review of successful strategies employed in comparable communities elsewhere.

First Committee Creative Work Session. In September 1990, the Committee on the Future met in creative working session to address the broadest vision for the County, in general terms, as well as with a specific focus on the four planning topics that were established. In part, this session resulted in "the big picture" from which the subsequent specific topical strategy statements were derived.

Focused Group Sessions with Special Knowledgeable Resources. In October 1990, the Committee held a series of four meetings (four hours each) with community resource experts and opinion leaders in the County whose input was valuable to the planning process in addressing many aspects of each planning topic. Each session was attended by up to 30 or so individuals representing relevant (public and private) community interests. The purpose of these respective meetings was to establish a specific vision for each of the four planning topics that were selected for the 1990 planning process. The Committee on the Future was represented at each of the group sessions. Each session was facilitated by the consultant team. The proceedings and key words were recorded on easel pads and on cassette tapes.

Leadership Retreat. The Committee convened a two-day retreat starting on November 30, 1990, which was attended by approximately 50 prominent County and surrounding area leaders and citizens who, during the session:

- reviewed and discussed the results of the previous interactive planning tasks completed;
- discussed and refined broad vision statements pertaining to each of the four topical areas that were established in the previous focused group sessions;
- discussed and developed general and specific strategies to realize particular visions established; and
- rank-ordered and prioritized strategies that were put forth by the participants for each of the four topics under study.

Report Organization

This report summarizes the findings from both the interactive and analytical aspects of the 1990 vision planning process described above. Every attempt has been made to address and integrate the vision and strategy statements that were developed and prioritized by all participants during the process. However, because of the iterative nature of the community input

(at each of several sessions, vision statements were revised and refined), specific names have not been attributed to any of the articulated visions or strategies.

The report is organized into seven major sections. Several appendices attached to the report provide detailed descriptions of case studies and successful strategies employed by other communities, as well as other information germane to the process as described above. The main body of the report has drawn on the materials contained in the appendices, as appropriate.

This first section of the report describes Chesterfield County's 2020 vision process as adopted and implemented by the Committee. The following Section II presents an overview of the Chesterfield County economy as a framework and a context for the four topic areas identified for this initial 1990 vision planning process.

Sections III through VI present, respectively, the vision and strategy statements that were developed for education, the environment, transportation, and government structure. Section VII addresses the long-range implications of no action to Chesterfield County in general, and specifically, for the four topic areas which are the focus of this initial 1990 vision planning process.

Common Themes

It is important to note that while this report is organized around each of the four topic areas taken separately, certain themes emerged during the planning process that are common to all of the topics. Recognizing that these themes are also of concern to other planning processes recently completed in the region, the Committee on the Future feels that they bear mention in this introductory section, so that their importance to each topic area will be noted when they appear in the respective sections of the report.

Public Awareness and Education. If citizens are to participate knowledgeably and confidently in local decision-making, they must have access to information, in a form they can understand. Helpful information should resolve the complexity of issues, identify economic, social and environmental ramifications of actions, and, hopefully, enable citizens to reach consensus decisions.

Neighborhood Councils. Demand for citizen involvement in public decision-making is only likely to increase over time. Yet there are few, if any, satisfactory mechanisms to stimulate and encourage non-partisan participation in public processes. The concept of neighborhood-based entities within the region would provide the forums for information distribution, issues clarification, contact with elected representatives, and

consensus at the most local level.

Regionalization. The region and its citizens are interdependent in many areas of public concern and public service. Where appropriate, a regional response could be the best way to improve services, eliminate duplication, and reduce costs. As a major player in a regional theater, the County can play an assertive role in regionalization.

Land Use Comprehensive Plan. In every aspect of growth management, coordinated and comprehensive land use planning emerges as a critical need. A variety of community issues and concerns should be integrated into the land use plan and the planning process in order to provide a single source for the articulation of public action over time.

Public/Private Partnerships. There is a question as to whether government agencies will have the future capacity and ability to provide the services they are currently providing, and whether it is even appropriate for government to provide certain public services at all. With maximum efficiency and effectiveness as the goal, the involvement of private contractors at some level in the provision of public services should be a consideration wherever appropriate.

Technology. New technologies are constantly emerging in every aspect of community life, especially in the areas that the Vision 2020 process addressed in 1990. While it is difficult to project a 30-year vision for the impact of technology development, Chesterfield County should be open to the potential benefits presented by these new technologies and should encourage their appropriate use wherever possible.

Acknowledgements

Approximately 200 people participated in the 1990 Vision 2020 planning process conducted by the Chesterfield Committee on the Future. One cannot help but be impressed by the commitment and community involvement this process reflects.

The members of the Chesterfield County Committee on the Future extends its thanks to all who gave generously of their time and knowledge:

- to the County Planning, Transportation, and Management and Budget Department heads for their help and participation in this process;
- to the Board of Supervisors and County Administrators, who gave liberally of their time and knowledge to this undertaking;

- to the County staff who supported the entire process every step of the way in the execution of this challenging undertaking;
- to the community leaders who shared their personal thoughts and viewpoints and were willing to engage in an open forum with their fellow citizens--even those with different beliefs; and
- to the firm of Economics Research Associates for effectively facilitating this complex undertaking.

The process begun in the Vision 2020 planning effort is one that can and should continue into the future. No doubt, aspects of the process will require refinement with each succeeding year. Those who drafted the County Charter should be proud that their experiment appears to be working, and has an exciting future to address in Chesterfield County.

SECTION II

A PERSPECTIVE ON CHESTERFIELD COUNTY'S ECONOMY AND POPULATION

Chesterfield County is a part of the Richmond-Petersburg Metropolitan Statistical Area (MSA) which consists of 13 central Virginia political jurisdictions: five cities and eight counties. The City of Richmond is the state capital and functions as the central city of this large geographic region.

The region occupies a strategic, central location within the eastern seaboard of the United States. It is located at the break-point between the heavily urbanized Northeast corridor stretching from Boston south to Washington, D.C. and Richmond, and the industrial Piedmont corridor extending north from Atlanta to Raleigh-Durham and Richmond.

The Richmond region is connected to the Northeast, the industrial Piedmont, and the Southeast regions through a broad network of transportation facilities. Major highway connections are provided by Interstate Routes 95 and 85 to the north and south. Interstate Route 64 and U.S. Route 460 provide direct access to the Hampton Roads metropolitan complex and the deepwater ports of Norfolk and Newport News to the east, and the Charlottesville, Lynchburg and Roanoke metropolitan centers to the west.

Chesterfield County covers 285,000 acres of land, or 446 square miles, approximately 30 percent of which is currently developed. The County is endowed with substantial natural resources and beauty. It is located within the watershed of two major rivers, the James and the Appomattox. Most of the County's population is concentrated near the cities of Richmond and Petersburg.

This section provides a brief overview of the County economy and population as a framework for the four topic areas-education, natural environment, transportation, and government structure-which were the focus of the 1990 vision planning process. A large number of issues circumscribing these four areas emanate, in one form or another, from the unprecedented, rapid growth experienced by Chesterfield County over the past two decades. The rapid rate of growth, change and urbanization has produced significant burdens on the County's:

- education system;
- natural environment, including sensitive areas and open spaces;
- transportation infrastructure; and

- financial resources and capacity to meet new public service demands.

The purpose of the 1990 vision planning process instituted by the Committee on the Future, as noted earlier in Section I, was to identify long-range challenges facing the County in the four topic areas selected, and to identify (through a citizen participation process) solutions and strategies to address these challenges.

To this end, this section reviews key economic and population indicators in order to provide a context for the nature and extent of growth that has occurred in the County. A secondary purpose of this section is also contextual in nature-to function as a background for discussion of the long-range implications for the County of no action, as addressed in the final section of this report.

Economic Overview

Chesterfield County occupies a strategic location between Richmond and the tri-city subregion-Petersburg, Colonial Heights, and Hopewell-of the Richmond-Petersburg metropolitan region. It is the fastest growing jurisdiction in the Richmond-Petersburg metropolitan area and currently ranks among the top three most rapidly growing counties in the Commonwealth of Virginia. Chesterfield County's population nearly doubled during the 1970s, growing from a level of 76,855 residents in 1970 to 141,330 persons in 1980, a gain of 64,475 people or an increase of nearly 84 percent over the 1970 population base. Table 1 on the following page compares more recent trends in non-farm jobs and population between Chesterfield County, Henrico County and the Richmond-Petersburg metropolitan area.

Table 1.
Trends in Non-Farm Jobs and Population, Chesterfield
County and Richmond-Petersburg Metropolitan Area, 1980-1990

<u>NUMBER</u>	<u>Population</u>		<u>Change</u>	<u>Non-Farm Jobs</u>		<u>Change</u>
	<u>1980</u>	<u>1990</u>	<u>1980-90</u>	<u>1980</u>	<u>1989</u>	<u>1980-89</u>
Chesterfield Co.	141,330	209,274	67,944	41,100	70,600	29,500
Henrico Co.	180,735	217,881	37,146	72,200	112,800	40,600
Rest of MSA	439,246	438,485	-761	260,600	286,100	25,500
Total R-P MSA	761,311	865,640	104,329	373,900	469,500	95,600

PERCENT DISTRIBUTION

Chesterfield Co.	18.6%	24.2%	65.1%	11.0%	15.0%	30.9%
Henrico Co.	23.7%	25.2%	35.6%	19.3%	24.0%	42.4%
Rest of MSA	57.7%	50.6%	-0.7%	69.7%	61.0%	26.7%
Total R-P MSA	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: U.S. Census of Population, 1980; 1990 Preliminary Census Estimates; Virginia Employment Security Commission; and Economics Research Associates.

As shown in Table 1, during the 1980s:

- The Richmond metropolitan region's population increased by over 104,300 persons, from 761,311 people in 1980 to over 865,600 persons in 1990.
- Chesterfield County added nearly 68,000 persons to its 1980 population base of 141,330, reaching a level of nearly 209,300 persons in 1990.
 - Chesterfield County accounted for over 65 percent of the region's population growth during the 1980s.
 - The County's share of the region's population increased from 18.6 percent in 1980 to 24.2 percent in 1990.
- As of 1990, Henrico County was the most populous jurisdiction in the metropolitan area, with a population of 217,881. Henrico County added over 37,100 people to its population base during the last ten years.

Data in Table 1 also attests to a healthy expansion of Chesterfield's economy during the 1980s.

- Non-farm jobs in Chesterfield County increased by 29,500 or 71.7 percent over the 1980-1989 period, from 41,100 jobs in 1980 to 70,600 jobs in 1989.
- Chesterfield County accounted for nearly 31 percent of the regions non-farm job growth, compared with 65 percent of the region's population growth during the 1980s.
- The County's share of the region's non-farm jobs increased from 11 percent in 1980 to 15 percent in 1989.
- Henrico County's economy grew by 40,600 jobs over the 1980-1989 period, accounting for over 42 percent of all non-farm employment growth in the Richmond region during the 1980s.
- Employment in the rest of the Richmond region increased slowly, by 25,500 jobs or 9.8 percent over the 1980-1989 period.

Although the Chesterfield County economy grew at a healthy pace during the 1980s, the County continues to play a bedroom community role to the Richmond economy. The County economy is clearly oriented toward Richmond, both functionally and in terms of its physical pattern of development. Its rapid expansion over the past two decades is due greatly to:

- its proximity to Richmond;
- growth and outward expansion of the Richmond economy;
- the County's excellent education system;
- the quality suburban living environment offered by the County; and
- the range of services and amenities--public, private and natural--provided by the County.

Changes in the Structure of the County Economy

Table 2 on the following page compares the structural changes that have occurred over the 1980-1989 period in the Richmond-Petersburg metropolitan area, Henrico County and Chesterfield County economies.

Table 2.
Changes in the Structure of the
Chesterfield County, Henrico County and Richmond-
Petersburg MSA Economies, 1980-1989, in Thousands of Jobs

Sector:	Richmond-Petersburg MSA				Chesterfield County				Henrico County			
	1980		1989		1980		1989		1980		1989	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Manufacturing	67.2	18.0%	64.7	13.8%	10.3	25.1%	13.4	19.0%	9.5	13.1%	13.9	12.3%
Mining	0.4	0.1%	0.8	0.2%	--	0.0%	--	0.0%	--	0.0%	--	0.0%
Construction	22.2	5.9%	30.6	6.5%	4.1	9.9%	7.0	9.9%	7.0	9.8%	7.4	6.6%
TCU 1/	21.0	5.6%	24.3	5.2%	1.8	4.4%	3.7	5.3%	4.4	6.1%	5.1	4.5%
Trade	84.4	22.6%	112.0	23.9%	8.7	21.2%	17.0	24.1%	22.9	31.7%	33.9	30.1%
FIRE 2/	27.7	7.4%	39.0	8.3%	1.1	2.6%	2.3	3.3%	7.3	10.1%	13.8	12.2%
Services	64.4	17.2%	103.7	22.1%	3.5	8.5%	12.0	17.0%	12.8	17.7%	29.6	26.3%
Government	86.6	23.2%	94.5	20.1%	11.6	28.3%	15.1	21.4%	8.4	11.6%	9.0	8.0%
Total Non-Farm	373.9	100.0%	469.5	100.0%	41.1	100.0%	70.6	100.0%	72.2	100.0%	112.8	100.0%

1/ Transportation, Communication and Public Utilities.

2/ Finance, Insurance and Real Estate.

Source: Virginia Employment Commission; and Economics Research Associates.

Important trends shown in Table 2 above can be summarized as follows:

- Employment in all sectors of Chesterfield County increased over the 1980-1989 period, with a large proportion of job gains taking place in the trade and services sectors.
- While manufacturing jobs in the region declined, manufacturing jobs in Chesterfield and Henrico Counties increased. Manufacturing activity remains an important job-provider in Chesterfield County.
- While service sector jobs grew nearly four-fold over the period, the share of total non-farm jobs in the services sector in Chesterfield in 1989 was significantly below that observed in the state and national profile, as well as below that in the region and in Henrico County's economic profile, suggesting the relative importance of/dependence on Richmond for certain services by Chesterfield residents.
- The dominant role played by the City of Richmond in the finance industry is reflected in the relatively few jobs in the finance, insurance and real estate sector in Chesterfield County.
- The growth in the County's share of total construction sector jobs in the region clearly reflects strong development activity in the County during this period compared with the region and Henrico County.
- In 1989, the trade sector was the largest employer in the Richmond region as well as in Chesterfield and Henrico Counties.
- The relatively strong representation of government jobs in Chesterfield County compared to Henrico County reflects both increased local government payroll (in response to rapid population growth) and the presence of federal (Department of Defense) installations.

The rapid suburbanization of the Richmond-Petersburg metropolitan economy is further illustrated by comparison of performance of the Chesterfield and Henrico County economies with respect to their share of regional jobs, as shown in Table 3 on the following page.

Table 3.
Chesterfield and Henrico Counties,
Non-Farm Employment as a Share of the
Richmond-Petersburg Metropolitan Area Job Base, 1980-1989

	Chesterfield County		Henrico County	
	<u>1980</u>	<u>1989</u>	<u>1980</u>	<u>1989</u>
Manufacturing	15.3%	20.7%	14.1%	21.5%
Mining	--	--	--	--
Construction	18.5%	22.9%	31.5%	24.2%
TCU 1/	8.6%	15.2%	21.0%	20.9%
Trade	10.3%	15.2%	27.1%	30.3%
FIRE 2/	4.0%	5.9%	26.4%	35.4%
Services	5.4%	11.6%	19.9%	28.5%
Government	13.4%	16.0%	9.7%	9.5%
Total Non-Farm	11.0%	15.0%	19.3%	24.0%

1/ Transportation, Communication and Public Utilities.

2/ Finance, Insurance and Real Estate.

Source: Virginia Employment Commission; and Economics Research Associates.

The data in Table 3 points out the orientation of the Chesterfield County economy. It indicates that, relative to Henrico County, Chesterfield County's economy is:

- not well represented by the finance, insurance and real estate sector, illustrating proximity to/dominance by the City of Richmond in this activity;
- provides an increasing range of services, but lags behind Henrico in the sheer size of the services sector;
- close to Henrico with respect to its share of manufacturing and construction sector jobs in 1989;
- not as well represented by trade sector employment relative to Henrico County; and
- better represented by government sector jobs than Henrico County.

In summary, there are clear differences in the structure and orientation of the two subregional economies represented by Chesterfield and Henrico Counties. The Chesterfield County economy is more heavily influenced by its proximity to the City

of Richmond in the finance, insurance and real estate (FIRE) and services sectors than is Henrico. Its government sector job base is influenced by the presence of the Defense General Supply Center, as well as by its relatively rapid growth, and the public service demands that such growth has placed on it. The size and structure of Chesterfield County's trade sector is influenced by the relative size of the market represented and by competitive facilities located nearby in Henrico and other regional jurisdictions.

Components of Population Change

The County's demographic profile, as represented by components of population change shown in Table 4 below, further illustrates the rapid expansion of its population, primarily through in-migration.

Table 4.
Estimated Components of Population
Change, Chesterfield County, 1980-1990

	<u>Population</u>	<u>Percent Change</u>
Population: 1980	141,330	--
Change, 1980-1990:		
Net Natural Increase	21,060	31.0%
Net Migration	46,844	69.0%
Total Change	67,944	100.0%
Population: 1990	209,274	--

Source: 1980 and Preliminary 1990 Population Estimates, U.S. Bureau of the Census; Chesterfield County Department of Planning; and Economics Research Associates.

As shown in Table 4 above, an estimated 69.0 percent of the total population increase of 67,944 during the 1980-1990 period, or nearly 47,000 persons, occurred through net in-migration. The remaining growth of over 21,000 persons took place through the natural process (local births over deaths).

Changes in Age Composition of the Population

The substantial in-migration of people into Chesterfield during the 1980s has also affected the age composition of the County's population, as shown in Table 5 below.

Table 5.
Estimated Changes in the Age Profile
of Chesterfield County's Population, 1980-1990

	Population 1980		Population 1990 1/		Change 1980-1990	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
Under 5 Years	10,684	7.6%	17,094	8.2%	6,410	60.0%
5 to 19 Years	39,982	28.3%	52,530	25.1%	12,548	31.4%
20 to 64 Years	84,150	59.5%	127,260	60.8%	43,110	51.2%
65 Years/Over	6,514	4.6%	12,390	5.9%	5,876	90.2%
Total	141,330	100.0%	209,274	100.0%	67,944	48.1%

1/ 1990 estimates based on 1990 census count, adjusted for age groups based on Chesterfield County Planning Department estimates for 1990 (prepared as of June, 1988).

Source: As noted above; and Economics Research Associates.

The County's population, as reflected in Table 5 above, is relatively young as compared with the nation and the Commonwealth of Virginia.

- The proportion of total population under five years old grew from 7.6 percent in 1980 to 8.2 percent in 1990. During this period, the number of children under five years old increased by 6,410, or 60 percent.
- While the proportion of total population in the school-age group (five to 19 years old) declined, the number of school-age children increased by over 12,500 during the 10-year period.
- The number of elderly persons (65 years old and over) increased by nearly 5,900 over the 1980-1990 period, from 6,514 persons in 1980 to nearly 12,400 persons in 1990.
- In spite of the growth of over 90 percent in the number of elderly individuals over the 10-year period, the proportion of total population 65 years old and over in 1990 was under six percent, compared with over 12 percent in the nation as a whole.

Implications of Growth and Change

The above-described economic and demographic trends had a significant effect upon the County during the 1980s.

- According to the Chesterfield County Planning Department, 85,130 acres of a total of 285,000 acres (or nearly 30 percent of County land) was consumed by 1990.
- In 1990, there were fewer people per developed acre in the County than in 1980, suggesting lower density developments. In 1986, there were 2.65 persons per developed acre, declining to 2.47 persons per developed acre by 1990.
- In 1990, there were an estimated 80,535 dwelling units in the County, resulting in a ratio of 1.7 dwelling units per developed acre, a decline from 1.82 dwelling units per acre in 1986.
- Between the 1980 and 1990 school years, student enrollment in Chesterfield County's public school system increased by about 12,000.
- The County's revenue from new taxes during the fiscal years 1980 through 1990 increased by \$19,640,300.
- The County's total debt service, including schools, increased by \$19,800,000 over the same period.
- During the fiscal years 1980 through 1990, some \$351,853,822 of total debt was incurred by the County for capital projects, of which \$289,822,112 was through issuance of revenue bonds and \$62,031,710 was tax-supported.
- School debt for capital projects during the fiscal years 1980 through 1990 amounted to \$160,374,612, and \$52,000,000 of debt was incurred for the construction of Powhite Parkway and Route 288.
- The County's financing requirements for all funded capital improvement projects through 1995 are estimated at \$267,447,100, or an average of \$53,495,420 per year over the next five years.
- Capital requirements for funded school facilities alone over the 1991-1995 period are estimated at \$181,200,000.

There is little doubt that the unprecedented, rapid growth of the County's economy and population over the past decade has added a significant fiscal burden on the County. A good proportion of the burden, according to recent analysis of

County finances, is a direct result of increased services and amenities provided by the County. Until now, the County has benefitted from mutually reinforcing policies of pro-growth and maintaining a high quality of life, for which the citizens of Chesterfield County now must pay the price.

SECTION III

VISION AND STRATEGIES FOR EDUCATION IN CHESTERFIELD COUNTY

Quality local public schools tend to attract new residents, jobs and investments to communities. The high quality of the Chesterfield County public education system has likely been a strong factor in the County's growth over the past two decades.

At the same time, however, growth in the County has also resulted in significant financial, capital, and operational burdens on the public school system that, if left unaddressed, will increasingly affect the quality of the County's educational system in the coming years. For this reason, the Chesterfield County Committee on the Future identified education as one of the four priority areas for its 1990 planning process. The Committee on the Future recognizes that the County must continue to maintain and enhance the high quality of its public education system if its citizens are to compete successfully and assume leadership positions in the highly competitive global marketplace.

Education: A Focus of National, State and Local Debate

There are many indicators that public education is achieving prominence as an urgent national priority. President George Bush has endorsed six national goals for education that are to be achieved by the year 2000. High-profile organizations, such as the National Governors' Association and the Carnegie Foundation, have made education a primary research topic and priority with respect to forming new, more effective policies. The crisis in public education has been the focus of the public media at national and local levels.

The ongoing debate about national education policy and the formulation of national education goals is still being resolved. In part, this is due to the fact that education in America has traditionally been viewed by the federal government as a local and state responsibility. While many states have mechanisms for establishing and achieving goals in education, there remain many questions as to whether, ultimately, the greatest responsibility for education should rest where education is delivered-at the local level.

Fundamentally, education is, and most likely will remain, a local issue and priority. Local communities are the first to be affected by the quality of education within a given jurisdiction. Typically, a local jurisdiction will spend as much as 50 percent of its operating revenue on education. The level of satisfaction of local residents with their public education system is a key decision factor affecting population and employment growth. Residents who are dissatisfied with the extent and quality of education that is available in a given

area look to the local government for changes, and hold local government responsible for shortfalls. As a result, the most intense debates on educational priorities are occurring within local communities.

The Role of the Commonwealth of Virginia in Education

Not unlike some states, the Commonwealth of Virginia has mechanisms in place to govern certain aspects of education on a state-wide basis; namely, the State Board of Education and the State Secretary of Education (a cabinet position appointed by the Governor). Through the Board of Education, Virginia mandates minimum curricular requirements in specific subject areas and competency standards for public high school graduates. Teachers who work in the Virginia public school system must fulfill state-mandated certification requirements. Finally, state law governs the selection of local school boards: School Boards in Virginia currently are not elected by citizens; they must be appointed by the local government, a practice that is presently a subject of debate within the state legislature.

The impact of state-mandated educational policies on local implementation can be seen in several areas. For example, recent debates in the General Assembly on the financial disparities among school districts have resulted in calls for linking state educational funding to the incomes of local residents and threats of lawsuits on the part of the poorer communities. With respect to the purchase of school buses, State guidelines dictate that localities must retire old buses after 12 years, regardless of their condition. As such, communities are faced with having to make expensive purchases, regardless of necessity.

The Virginia State Board of Education has begun its own strategic planning process for education. Looking at the state as a whole, educational planners and policy makers are working with many of the same issues currently under debate on the national level.

An Overview of the Chesterfield County Public School System

As the national debate on education continues, Chesterfield County residents have begun to examine the extent to which their own public school system meets the needs of all citizens. With a low drop-out rate, consistently good scores on national standardized tests, and its proximity to numerous community colleges and universities, there appears to be no "education crisis" in Chesterfield County's successful public school system.

The Chesterfield County Public School System is the third largest system in the state. It serves a total of over 44,000 students. An estimated 24 percent of the County's population

is comprised of school-aged children, with total school enrollment expected to continue to increase between 1,500 and 2,000 students per annum and is expected to stabilize by the year 2020. The County School System also operates a vocational education center. Even with recent voter-approved bond initiatives that help plan for and build new schools at the elementary, middle and high school levels, the total cost of meeting additional school capital improvement needs through the mid-1990s is estimated to be over \$170 million.

Students and teachers in Chesterfield County's public schools are recipients of many national awards and scholastic recognition. Fifteen Chesterfield County high school students were national merit scholarship finalists for the 1989/90 academic year. The County's sixth graders who participated in the Virginia Literacy Testing Program scored higher than the state average in every area.

Chesterfield County Public Schools sponsor a program for particularly talented and gifted students. There are numerous remediation programs designed to assist students who are "at risk" or have special education needs. Classes are offered in English as a second language to assist non-English speaking residents. In addition, the new magnet school program being piloted in the City of Richmond will soon be available to Chesterfield residents in the Fall of 1991.

There is a community college located in the County and another located in metropolitan Richmond. Virginia State University, Virginia Commonwealth University and the Medical College of Virginia are state institutions of higher education which are located within close proximity to the County. In addition, the University of Richmond and Virginia Union, both private universities, are easily accessible to county residents.

The Committee on the Future and the Vision Planning Process for Education

The same economic, social and demographic changes that are driving national education debate are also motivating the debate regarding public education in Chesterfield County. As more demands are made upon both the current and future workforce, successful school systems such as Chesterfield's must reflect upon their ability to improve what is already a high level of service to the community, and to ensure that quality is maintained in light of technological advances and the speed with which the world and the economy are changing.

Recognizing the need to ensure that these challenges are acknowledged and met in Chesterfield County, the Chesterfield County Committee on the Future chose education as one of its first four topics to examine in the vision planning process. In formulating the vision for education in Chesterfield County, the Committee convened numerous individuals representing a variety of primary local "stakeholders" in the education

process: educators, educational administrators, school board members, local and state government representatives, employers, parents, students and school committee members.

In discussions facilitated by outside consultants, the participants raised the following key topics relating to education:

- technology, both as a tool for teaching and as a discipline;
- facilities: the need for, use of, and funding for the construction thereof;
- the need for a broad base of skills and disciplines;
- social and moral educational functions of a school;
- mechanisms for local community input;
- the nature of "quality" and the need to develop better methods of assessing it;
- the need to ensure that the educational needs of all members of the community are met; and
- risk-taking in education in order to ensure that new, better methods (as they exist) are used.

Discussion was animated and, at times, heated, reflecting that education is an issue that is close to the hearts of all citizens, and affects all aspects of community life. Regardless of the many diverse viewpoints regarding education that were expressed during the Vision 2020 discussions, those who provided input were able to shape an overall vision, supporting ideas, and strategic options for consideration for education in the County in the year 2020.

Overall Long-Range Strategic Vision for Education

At the start of the community input process, participants were asked to articulate the purpose of education in Chesterfield County in the year 2020. The following statements were derived from this exercise, and reflect the wide array of important attributes and goals that are on peoples' minds when they think about the role of education in community life.

- To provide the necessary skills for job markets and/or for college;
- To assure that each person can live a happy and productive life in a multi-lingual, multi-cultural, multi-national world, appreciating the differences between and among people, at work and at play;

- To provide the skills for maintaining good health, for continuing learning, and for successful leisure and socialization;
- To develop useful citizens who have productive jobs (and are good taxpayers);
- To assure an ongoing (life-long) process of learning;
- To have well-trained, well-paid, competent teachers;
- To encourage the involvement of all the County's leaders in the educational process;
- To be accountable for student progress;
- To teach people to make responsible decisions in a free society;
- To provide an environment in which each student develops his/her full potential;
- To provide re-education, retraining, and continuing education;
- To produce students who are productive, skilled citizens of high integrity, motivated by a moral code and cultural values;
- To enhance the quality of life, and expand the productive life of the population;
- To assure that competent teachers are teaching and that all students are given the opportunity to learn;
- To provide both enrichment and remedial learning opportunities year-round;
- To provide quality education equitably, and offer choices for learning that provide the opportunity for students to use their talents productively;
- To encourage respect of all other peoples;
- To transmit cultural values on a global level so that people can become productive members of society;
- To produce a citizenry that is knowledgeable about the democratic form of government;
- To nurture literate, inquiring minds and individuals; and

- To serve individuals, groups, and society as a whole by fostering a love for learning.

The Overall Vision

The purpose statements for education that were generated by the participants reflect a humanistic and holistic vision for education which may be synthesized as follows:

The education system of Chesterfield County in the year 2020 has a holistic point of view, where education, family life, and the environment are a unity of interest. Educational opportunities should be universally available (including the use of electronic media) and individually applied (a caring and humanistic view of students).

This overall vision for education in the County for the year 2020 reflects the desire to reach all segments of society, regardless of income and social condition, and to include the interests of students in a variety of fields, endeavors, and disciplines. Further underlying the vision is the premise that Chesterfield County will maintain excellence throughout its education system in the face of anticipated and perceived challenges from an ever-changing economic, social and technological context.

The economic efficacy of an effective educational delivery system in the future must be studied, analyzed and implemented where practical in order that optimum utilization may be made of available resources. Privatization in the provision of transportation, food services and administrative data processing, for example, may be more cost-effective and efficient than current day, costly stand-alone models.

The implementation of an effective pragmatic public educational system in the future will require/demand cooperation and coordination with a number of agencies both from within and external to the county government structure. Positive partnerships and liaisons must be formed with surrounding universities, businesses, industries, and state and federal governments - all of which consume the products of the county schools system.

Implications of the Overall Vision

Participants in the Vision 2020 discussions reflected on the impacts that the overall vision might have on the County's current and future education system. They identified a complex web of components and sub-elements of an education system which must be taken fully into consideration if a holistic vision for education is to be fully realized. The essential components consist of the following:

- the array of people and institutions that are affected by the education system (for planning purposes, these were called "stakeholders");
- key players and decision-makers in the delivery and management of educational services;
- standards and measurements to measure system performance and assure system accountability; and
- tools and methods-technology and other mechanisms-used by the system to produce its intended results.

In developing a more explicit set of visions and strategic options, the Vision 2020 discussions addressed the following questions regarding educational services:

- What should be delivered?
- What tools, methods and technologies should be used for delivery?
- Who should provide the services and who should receive them?
- What decision-making process should be established for policies, priorities, and implementation?
- What mechanisms and benchmarks should be used to monitor and measure progress and performance?

Visions and Strategies for Major Education System Components and Sub-Elements

After articulating the overall vision for education in Chesterfield County, the participants in the Vision 2020 process debated more explicit vision statements as well as strategic options that would assure that the future visions are realized. At the end of the vision planning and strategy formulation meetings, the participants rank-ordered ideas in order to establish a sense of priority among their various concerns.

In the material which follows, the educational issues discussed by the Vision 2020 participants-both concurring and diverging viewpoints-are presented. Brief case studies are presented to show strategies that have been tried or are being tried in other areas around the country. More detailed descriptions of many of these case studies are provided in Appendix A.

The material is organized under the following major subject (component) headings:

- o Curriculum and Teaching Methods
- o The Decision-Making Process

- o Roles of Schools and Risk-Taking
- o Partnerships in Education
- o Student and Teacher Evaluation
- o The Teacher's Role
- o School Facilities
- o Technology
- o Training and Retraining

As previously stated, it is acknowledged that the education system of Chesterfield County is a matrix of interconnected goals, objectives, players, activities, and facilities. In order to reduce duplication and overlap in the following presentation, care has been taken to organize strategies as discussed by participants within the most appropriate topic area.

Curriculum and Teaching Methods

Vision Statements

Participants in the Vision 2020 planning process for education raised three priority vision statements concerning curriculum and teaching methods. Respectively, they address multiple learning styles and multiple teaching goals, educational equity, and globalization:

Curriculum Vision Statements for the Year 2020

- Education in Chesterfield County will be a multiple delivery system to handle multiple learning styles (ways of learning) and multiple educational goals (results) that can be measured.
- In order to provide students with the means and resources to achieve their full potential and capacity, education will be provided equitably--the educational needs of each student (including those at risk, gifted and talented, disabled, or a member of any special population) will be served appropriately and without detriment to any other student.
- Students in Chesterfield County will have the skills to handle themselves in a global society.

Strategies

The curriculum strategies receiving highest rank order scores by the Vision 2020 participants are as follows:

- > The County should offer a variety of learning opportunities and methods which teach a broad base of materials that people in Chesterfield County can access.

Specific curriculum topics and issues cited by the Vision 2020 participants included:

- logic skills so students learn to make decisions;
- foreign languages;
- broader knowledge base;
- classical education;
- leadership skills;
- human relations and respect;
- core curriculum;
- teaching principles;
- local (Chesterfield County) history;
- philosophies underlying economic and democratic systems;
- principles of analysis;
- vocational/technical schools
- fine arts;
- personalization of education; and
- application of creative teaching methods which create joy and fun in learning.

This strategy suggests the need to bring all disciplines together into a single positive learning environment. Those who are served by such an education system would be well-rounded, having been exposed to a variety of ideas and subjects while at the same time retaining a solid core of basic knowledge. Along this line, the participants also expressed a desire that the system teach broad core principles and logic skills that can then be applied to other, more specific disciplines. With strong critical and analytical thinking skills, students would then be more flexible and better equipped to handle a quickly changing world and economy.

A second major curriculum strategy reflects the need for educational services to serve, promote and encourage each student to work and achieve to the best of his/her ability:

- > The Chesterfield County school system should provide a curriculum that serves the education needs of all segments of society.

The participants, in elaborating on this broad strategy, suggested that the following trends will need to be addressed by the County's education system over the next 30 years:

- Schools will need to serve a broader age range in the year 2020.
- There is an increasing need for the re-education and retraining of a society (population) that is aging and changing.
- There is as much a need to serve the "average" student, as there is to serve the "special" student.

Case Studies

Essential Schools. The concept of "essential schools" is embodied within the strategies that were developed in the Vision 2020 process. According to the Coalition of Essential Schools, founded in 1984 through Brown University, there is an emphasis on the mastery of basic skills in an innovative fashion. Less emphasis is placed upon electives, while the following areas are emphasized:

- Core subjects are taught in a flexible learning environment.
- Key ideas and principles are often taught through the process of self-discovery in that students answer the questions on their own rather than through a book or lecture.
- Creative, independent thinking on the part of students is emphasized through the aforementioned processes.
- Students work together in groups at various intervals to reinforce the need to be able to work well with others.
- Teachers work together in teams in order to better link subjects that are otherwise presented as distinct lessons but have similar traits (such as teaching the history and literature of a time period as one unit).

Age and Ability Grouping. In the State of Kentucky, school districts are experimenting with elimination of grade levels and ability groups. Rather, teaching occurs in a less structured environment where students are allowed to work at their own pace and learn in their own way. It has been found that, particularly at early ages, children learn at different speeds and will react differently to various methods of presenting information. These changes in the class and classroom structure provide an example of what educators are doing to meet the challenges presented to them by their students as well as the challenges that are presented to us all by our changing world. Both of these case studies are presented in further detail in Appendix A.

Access. The need for training and retraining was emphasized throughout the process and will appear in the form of other strategies later in this section. Some school systems are experimenting with holding evening and weekend classes for students who must work during the day. This has proven to be quite successful in increasing high school graduation rates in Dade County, Florida, for example. Focused on young mothers, the Dade County program achieves the vision in that it makes

educational opportunities available to another, potentially excluded, segment of the population. (For both of the above, see: Restructuring in Progress: Lessons from Pioneering Districts.)

The Decision-Making Process

Vision Statements

The participants in the Vision 2020 planning process for education discussed the national debate that currently surrounds public education, and the way in which local decisions regarding education in Chesterfield County in the year 2020 would relate to national concerns and goals at that future time. Participants discussed the need for comprehensive evaluation techniques and standards; the use of technology and technology as a discipline; how to meet the needs of all individuals; survival in a global environment and the teaching of problem solving and analytical skills. There was a general belief that, while many nation-wide policies for education might be set at the federal level, implementation decisions would continue to rest with local jurisdictions. In this context, the following vision statement was crafted:

- By the year 2020, there will be a consensus of urgency (goals, commitment, leadership, etc.) regarding education policy as a national priority; action will be implemented at the local level to address national goals within the local context.

The participants expressed the belief that within the next thirty years, national and state jurisdictions would provide leadership to help local communities resolve complex education issues. In identifying mechanisms for setting local priorities, the participants offered the following vision statement.

- By the year 2020, new mechanisms to address the complex subject of the education system will be created at all levels of government: federal, state, and local. These mechanisms will resolve the complexity of educational concerns, parcel out responsibilities, and provide the necessary incentives for implementation. The local school board will be one among many of the parties providing educational services.

Other vision statements listed by the participants during their discussions, but for which no specific consensus was achieved, included:

- In the year 2020, Chesterfield County will have a goal-oriented system and specialized schools with open enrollment by choice.

Strategies

The participants in the Vision 2020 planning process were not unanimous in their ideas about mechanisms for educational decision-making. While there was agreement on the need for mechanisms at all levels of government to meet the challenges for education in America, there were conflicting viewpoints on the role that each level of government should play in this process. The following two sets of strategies illustrate this disparity:

- > The State should establish only desired educational outcomes--not mandate specific curriculum methods.

This strategy is based on the following opinions expressed by some participants:

- Chesterfield County should have more local curriculum control because there is less funding for curriculum development coming from the state.
- Any curriculum that is mandated should allow for flexibility at the local level.
- By the year 2020, mandates will still be given; however, by that time, schools and parents will be able to individualize the educational process (for each student and for each school) in order to meet specific specialized and local needs.

The following strategy was proposed by some participants as a counterpoint:

- > The State should play a stronger role in mandating curriculum at the local level.

Here, the strategy is based on the belief (as stated by some participants) that, by the year 2020, there will be greater overall pressure within state government for a higher level of educational services provided consistently across the state. Thus, there would be more state-mandated curriculum requirements.

Other strategic statements regarding decision-making for which there was no unanimity included:

- > Chesterfield County needs more input from educators into the legislative decision-making process.
- > Urban power centers will control the educational process and educational mandates more than the rural and disadvantaged areas.

It should be noted that, overall, the Vision 2020 participants gave a higher combined ranking to strategies calling for fewer state mandates than for the counter-strategies listed above.

The participants debated the best and appropriate role of "educational stakeholders" in the decision-making process of education. In particular, there was a great deal of discussion about elected versus appointed school boards. While strategies and issues that supported the election of the school board ranked higher than strategies advocating an appointed school board, the difference was too small to be considered a majority or consensus viewpoint. The strategies regarding "stakeholder empowerment" can be grouped as follows:

- > We need to continue the empowerment of stakeholders in the educational process at the school level to promote accountability.
 - Chesterfield County should establish a representative body at the school board level for citizen input not only into the school board decision-making process, but also into the education-related decisions of the County supervisors.
 - Neighborhood councils (units of county government) could serve as the representative voice of the people with regard to the education system of the county.
 - The School Board should be elected by the people (i.e. not appointed by elected officials).
- > Remove the school board from the political process.
 - Elected school boards won't result in the best people by virtue of their merits. School board members should be appointed.
 - The School Board should not have authority to raise revenue.

The critical issue lies in the selection of school board members, and who is given the power to choose those members. The election of local school boards in Virginia was recently defeated by the General Assembly; however, the issue remains one of contention and debate. The removal of the selection of the school board from the political process is fundamental to the concept that to make the best decisions for all concerned, the best possible candidates must hold such important positions. Consequently, to ensure that such choices are made, school boards are not selected by the voters directly but through their elected representatives in local government.

Case Studies

Stakeholder Empowerment and Restructuring. The broader strategies concerning the empowerment of stakeholders in the education decision-making process is one that is often referred to as restructuring. Restructuring is one of the school improvements supported by the National Governors' Association which has compiled a wealth of information on restructuring efforts around the country. Chesterfield County public schools are currently experimenting with the concept in selected schools in the County. Many districts in the country have had such programs in place for a number of years. These programs in other districts have met with mixed success. Each one differs in a variety of ways and the differences are at least in part related to the level of success experienced. For example:

- In Dade County, Florida and Poway, California, restructuring has been quite successful. Implemented within existing administrative structures these districts have given more of the budget, curricular and staffing decision-making power to teachers, parents and school administrators. This power is generally subject to central and school administrative approval, however. In addition, teachers and parents are expected to attend well-structured and informative development programs to assist them in performing their new roles in an effective and beneficial fashion. As a result, teachers and parents feel that they have more of a say in education decisions. The general community feeling toward these programs is positive. It is felt that the restructuring programs have led to changes that are beneficial to all concerned in the education process. (See: Restructuring in Progress: Lessons from Pioneering Districts.)
- The restructuring program that was implemented in Chicago, Illinois has not met with as much success. Most of the power in Chicago's program is centered around parents. Parents have been given broad powers to make essentially all of the key decisions involving the running of a school. At the same time, however, it has been charged that parents were not given ample training in the running of the school. The result has been confusion and tension between parents and school employees. At the time of this writing, there has even been discussion of abandoning the program after only a year of implementation. Recently, a state court has found the reforms to be unconstitutional because of the way in which local school board members were selected, however, some experts believe that the Chicago restructuring program will most likely resume once the necessary

changes are made in the school board selection process.

Parent Training. San Diego and Louisville schools, among others, are sponsoring training programs for parents in order to get them excited about, and interested in, the educational process of their children. By teaching parents about the role they play within the educational process--which includes the teaching of social values--school systems have been able successfully to place some of the burden of educating students upon the parents.

Roles of Schools and Risk-Taking

Vision Statement

The participants in Vision 2020 discussed at length the role that Chesterfield schools might play/not play, and the approach that the system should take, in implementing the various goals that are established. Within this context, the participants offered the following vision statements:

- In the year 2020, the educational system in Chesterfield County will be proactive, not reactive to change; it will take risks to get the job done successfully.
- In the year 2020, schools as the primary venue where learning occurs will continue to exist; schools are where people relate with one another (technology will not replace people).
- School facilities will not be the only sites for education in the year 2020. Education will be home-based as well. Formal learning will occur at the home as well as at school.

Strategies

As with other topical areas within education, the Vision 2020 participants expressed disparate opinions regarding the best means to achieve the vision statement. On one hand, there was the highly proactive strategic approach.

- > The education system of Chesterfield County should reflect the nature and conditions of the current society and should anticipate the nature and conditions of society projected into the future.

Those participants supporting this approach, listed the following strategic issues to further define the role of schools in Chesterfield County in the year 2020:

- The education system in Chesterfield County should teach about values and the family unit.
- The education system should teach values that celebrate the diversity of our society.
- In the year 2020, it's a global society.
- In the year 2020, the discipline of education will be reintegrated into the educational process either through the family structure or through institutional structures.
- Chesterfield County cannot afford to lose its children to the social problems of the 1990s.

Another group of participants raised the following cautionary strategic concern:

- > Having the schools try to solve all the problems dilutes the educational process.
 - Citizens are expecting the schools to do too much in the year 2020. Maybe others (for example, business and industry) should be responsible.
 - Schools and government cannot replace the structure and impact of the family.

Yet a third strategy focuses on the advantages of risk-taking in educational decision-making:

- > Chesterfield County should feel comfortable in taking risks regarding the education system and to committing the resources needed to change the system for the better.

The issue of risk-taking in education is one which has received a great deal of national attention. As a counter response to the use of traditional, "tried and true" methods-regardless of their effectiveness-many educational systems are now encouraging teachers and administrators to try new methods for presenting curricular material.

Risk-taking in education through new experiments can have twofold results. First, educators are more satisfied with their jobs since they are given avenues through which they may be creative and innovative. Secondly, many experimental methods have been successful. At the same time, experimental methods are also subject to failure, which can result in direct detrimental consequences to students. Recognizing the importance of documenting risky developmental work in education, the

participants in Vision 2020 put forth the following strategic statement:

- > Research is critical to the process of developing educational priorities.

While the use of educational research is not new to the education process, the "crisis in education" has fueled renewed enthusiasm and interest in research activity. As recently as 1988, the U.S. Department of Education published a volume entitled "What Works," a handbook that uses much of the existing education research data to describe effective teaching methods for both parents and educators. As a synopsis of various successful techniques, as well as being well annotated for those who would then need to conduct further research, "What Works" serves to bring much of the existing educational research to the general public.

Partnerships in Education

Vision Statement

On a national basis, educators and community leaders are increasingly concerned that traditional methods of educational delivery ultimately will be too costly, and will not be able to adapt to technological change and marketplace demands. Hands-on instructional methods are provided to students at a relatively high cost to schools. Sophisticated laboratory equipment is often prohibitively expensive. The rapid pace and cost of technological advances make the use of state-of-the-art computers a financial strain for educational budgets. Furthermore, school systems are looking to individuals in non-educational or non-traditional educational settings for assistance in identifying and meeting the need for specific job skills required by the marketplace.

In order to address these issues and concerns, the participants in the Vision 2020 planning process for education felt that new partnerships will be required in order for the County's education system to be effective. The following vision statement was thus formulated:

- In the year 2020, a variety of community resources will serve the teaching function in Chesterfield County: people designated as "professional teachers" (in whatever role), business people, parents, civic leaders, etc.

Strategies

The Vision 2020 discussions resulted in strategic suggestions for a variety of partnerships between the education system and other community interests within the County. On a national

scale, there is a continuing debate regarding the value of using business and community leaders as well as parents in the delivery of educational services. Within Chesterfield County, the local priority of this concern is reflected in the high ranking of educational partnership strategies (ranked highest of all actions listed by the participants for educational actions). The following strategy statements indicate this concern in the Vision 2020 process:

- > We need more partnerships between the educational system and other community interests.
- In the year 2020, the education system and the business community will be in closer partnership to support the education process (the partnership will be manifested throughout the education process).
- School facilities should be used as training sites for industry and other private sector groups.
- Industry should provide teachers employees who are used for educational purposes and who are rewarded by their employers for their involvement in the schools.
- In the year 2020, we will have a more systemic approach to educational planning with a variety of community resources (mental health agencies, YMCAs, churches etc.) working together to strengthen the social and family fabric in our community. Social and human services will be provided within the school environment.
- In the year 2020, the community colleges will be far more integrated into the county's educational process.

Examples

Partnerships. In other areas around the country, school systems are experimenting with a variety of ways of forming partnerships. Some are using partnerships to reach at-risk students, to provide hands on experience, and/or to provide input into system improvements. While many of these partnerships involve business as the second party, some incorporate the assistance of foundations, civic action groups and universities. Briefly, some examples, which are discussed in greater detail in Appendix A, include:

- partnerships with business where students spend part of the day gaining work experience and studying

traditional disciplines in a business environment with a "mentor" from the private sector;

- exchange programs where teachers and business professionals trade places for as long as an academic year;
- programs with universities where professors enter primary and secondary schools and training centers both to test techniques taught at the university level, and to provide real-life examples for college students who observe the process;
- assistance from non-profit foundations in the form of money and technical support for new methods of teaching and furthering the professional development of teachers;
- vocal assistance from advocacy groups that spurred the formation of resource centers and changes in the school system to the end that the community was convinced of the net benefit and efficacy of such changes; and
- some school districts have received limited amounts of direct funding for or in-kind donations of equipment.

While many partnership programs have proven to be beneficial, school systems and business leaders alike must be cognizant that the goals and perspectives of each are not always the same. In the examples cited above there were no instances where outside partners dictated curricular issues. Rather, the tendency is for business to provide incentives, resources and advocacy in order to complement and not replace approaches developed from within the local education system itself.

Student and Teacher Evaluation

Vision Statements

The Vision 2020 planning participants spent a great deal of time discussing the way public education methods, personnel and results should be evaluated. Concern was expressed that evaluation of either students or newly trained workers is an extremely complex and subjective topic, for which there were many and diverse viewpoints and opinions among the discussion participants. Questions were raised about what was truly being tested by current evaluation methods, and whether these methods can ever provide an accurate and objective assessment of a community's education system.

The vision statement for the future of student evaluation in the County in the year 2020 is as follows:

- In the year 2020, students in Chesterfield County will be evaluated by multiple evaluation instruments that can measure multiple results (testing for humanistic issues, as well as core skills).

The vision statement for teacher evaluation:

- In the year 2020, a system of teacher evaluation will be in place that measures: (1) the teacher's skills competence (the science of teaching); (2) his/her ability to nurture students (the art of teaching); and (3) the kinds of students that are actually being produced (results and outputs).

Clearly, these vision statements both call for new testing methods. Critics of traditional evaluation methods complain that standardized multiple choice tests do not effectively measure analytical ability or critical thinking skills. Others suggest that such tests do not contribute substantively to the overall education process. In order to assure favorable test scores in comparison to other school systems, teachers and school administrators are pressured to make sure that their students perform well; in some school systems, teachers devote classroom time to teach students how to take multiple choice tests.

Strategies

The following strategy statements for evaluation were put forth during the Vision 2020 discussions:

- > In the year 2020 Chesterfield County will have multiple evaluation methods in order to assess multiple results of the educational system.
 - We will be better able to determine if Chesterfield's schools are globally competitive.
 - Chesterfield County's citizens and its education system need to raise our standards and expectations of "what is acceptable."
 - The global marketplace will be the ultimate determinant of educational impacts and evaluation of the system.
 - The County education system will rely less on multiple choice and standardized tests.
 - With regard to teacher evaluation, the County education system should provide evaluation forms for parents, industry representatives and others outside the system.

- The system should reward each individual school for the performance of its students.

Teacher compensation received attention by the Vision 2020 participants, but as indicated in the following statements, there was no expressed consensus during the discussions:

- > Compensation for teachers should be based on evaluation criteria.
 - Compensation for teachers should be based on market needs.
 - Compensation for teachers should be based on merit.

The strategies reflect no clear agreement on the incentives or rewards for teachers.

Case Studies

Testing Practices. Evaluating students on a national basis requires that all states agree to certain standards and adhere to the agreed upon testing methods. Recently, new steps have been taken to improve the process of evaluating education systems on national levels:

- The U.S. Department of Education has begun funding a national testing program, the National Assessment of Educational Progress program.
- Efforts are being made so that graduation rates and drop-out rates can be compared on a level playing field where statistics reflect the same thing for all states.
- Universities in certain regions of the country are beginning to adopt uniform standards for teaching graduates, so that education graduates from different universities may be compared with one another more easily.

In other areas of the country, schools are experimenting with the testing practices themselves rather than the application of the tests. California is testing a program in which student evaluation is based on a battery of hands-on tests designed to measure analytical thinking skills rather than memorization of facts. This practice is discussed further in Appendix A. .

The Teacher's Role

Vision Statement

Along with multiple teacher evaluation, the Vision 2020 participants formulated a vision statement concerning the multiple roles that teachers will play in the education process in the future:

- In the year 2020, Chesterfield County's teaching staff will be varied and specialized: some will be presenting/imparting teachers; others will be nurturing teachers; while still others will be mentors/-coaches/facilitators for learning.

Strategies

- > Teachers should be classified by specific academic disciplines so that the right teachers will be teaching the right subjects.
 - The Chesterfield County school system will have different kinds of teachers for different kinds of educational needs.
- > The County should follow a continuing pattern of career-long support and retraining for teachers.

These strategies reflect the need for the teaching staff to serve a variety of roles; one individual cannot perform all that will be expected of teachers. Also, in order to be effective in these roles, there need to be mechanisms for supporting teachers in order to maintain continuing capability in the face of changing technology, information and learning styles.

It is important to note here that Chesterfield County is currently piloting a team teaching program in targeted schools. The team teaching program pairs teachers with different skills together to present a given lesson or work with a larger group of students. Under such a program, teachers are more accessible to students and students who do not identify with one teacher may be able to identify with another. Individual strengths belonging to one teacher can be highlighted and used to the greatest benefit of the student. Additionally, teachers are less likely to feel frustrated having to perform duties that they do not do well if paired with a partner who has different strengths and weaknesses.

School Facilities

Vision Statement

The nature and use of school facilities is an issue of concern throughout the country, particularly in areas such as Chesterfield County that are experiencing high rates of population growth. As previously stated, Chesterfield's population growth has had a dramatic impact on the capital costs for school facilities. The school system estimates that keeping up with the growing school-age population will require over \$170 million by the mid-1990s.

The high cost of facilities construction often focuses as much attention on capital expenditures as on budgets for curriculum development. In this context, it is not surprising that additional and alternative uses for school facilities emerged as the focus of this topic's vision statement:

- In the year 2020, school facilities in Chesterfield County will be associated with parks and recreation, libraries, and other community resources. The school system will manage the use of its facilities in partnership (shared) with a variety of community resources.

Strategies

The participants in the planning process debated and explored a variety of facilities-related issues and strategies. A variety of school configurations were examined, including:

- exclusively neighborhood-based schools;
- central campus schools only; and
- central campus with neighborhood satellites.

Decentralized school facilities were favored by a majority of participants. Discussion participants were in unanimous agreement about:

- proactive planning for facilities;
- flexible design for non-traditional uses; and
- full use of school facilities, including
 - year-round schools to accommodate more students, and
 - year-round use of schools as community centers and for other use.

Chesterfield County is currently exploring the possibility of a year-round school calendar. A year-round schedule enhances utilization of expensive infrastructure and increases a school's ability to serve students by as much as 25 to 30 percent. While no specific strategy was proposed for year-round scheduling, the participants expressed a general sense

that year-round schools would be implemented in the near future. At the same time, given that the growth in the number of students in the County is expected to stabilize by the year 2020, there were questions as to whether there still would be a need for year-round schools in thirty years.

The following strategies reflect concern for the need to use school buildings that are either no longer necessary or are used only during traditional times throughout the year.

- > School facilities should be designed so that they can be converted for a variety of other community and commercial uses after they are no longer needed as schools.
 - Schools in the year 2020 will serve as multipurpose spaces for a variety of community activities.
 - In the year 2020, Chesterfield County will have year-round schools.

Case Studies

In many states, including Virginia, schools are used in the morning or in the afternoon as day care facilities and to serve a variety of community functions. State programs for alternative uses of schools help communities that are struggling to maintain the number and quality of their school facilities. Additionally, according to data supplied by the Chesterfield County school system, year-round schools have been proven to be effective in relieving overcrowding in cities such as Denver, Colorado, among others. More detailed descriptions of such programs are included in Appendix A.

Technology

Vision Statements

The use of technology is a significant aspect of the overall vision statement for education. In shaping the following vision statement for technology, participants in the discussions expressed a concern that education is a life-long process of training and re-training, and that the delivery of educational services need not be dictated by traditional approaches:

- > In the year 2020, technology will be available in Chesterfield County to bring the classroom into the home; parents and families will know what is going on with the educational process of their children.
- > The application of technology will be more important than the training of technology.

Strategies

Strategies specifically oriented toward technology are as follows:

- > Computer technology: teach competence and literacy but also teach technological innovation.

Case Studies

Technology. In these strategies technology is used as a tool for communication and learning, as well as being a discipline itself. Many states are experimenting with the use of technology as a means of communication and learning. In areas that are remote or where qualified teachers do not exist, experimentation with using communications technology to bring teachers and material to classroom settings electronically is occurring. Special programs are offered in the same fashion. For example, the NASA-Langley Visitors Center in Hampton, Virginia offers a special program to teachers who are located too far away to have students visit the center. They conduct telephone lectures in aeronautics and space exploration for classes in distant areas upon a teacher's request.

As a means of learning, advances have been made recently in the level of technology that is available to students. Most states are implementing programs to increase the use and number of computers in schools. School systems are also experimenting with the use of computer programs that teach analytical thinking skills in addition to their traditional use as a drill instructor for the mastery of basic concepts. For example, as cited in The Governor's Report on Education:

- California has awarded a grant to a private corporation for the development of a technology-based curriculum package for science courses. The package will incorporate computers, VCRs and video-disc players.
- The state of Washington is creating a program for partnerships between school districts and teachers, and private sector specialists in technology. The program is designed to provide six broad areas of service and exchange:
 - training, consulting and provision of grants;
 - exchange of technology information;
 - liaison for specific technology-related information and services;
 - awareness and promotion of educational technology;
 - research in and evaluation of educational technology; and

- provision of information for legislative understanding.

The participants listed the following strategy emanating from wider use of technology tools over the next 30 years.

- > By the year 2020, some 50 percent of the students will be learning at home, with schools being a two-day-a-week tool for socialization for those assigned home study.

While the role that the school setting plays as a means for building socialization skills is all too important in a modern society, the ability to reach individuals who would otherwise not have access to educational opportunities suggests a balanced approach. In areas where technology is the only means for accessing education and training, the need for such should not be ignored. However, in areas where schools are accessible as well, especially as business becomes aware of the necessity of having employees who are capable of working with others productively, a balanced approach to home-based education should be taken.

Training and Retraining

Vision Statements

Training and re-training issues reflect the need for individuals who are skilled in areas that employers need. Globalization requires that workers with new skills be capable of serving industry in the nation. The following vision statements reflect these long term requirements:

- Multiple delivery systems for education will include training and re-training opportunities using a variety of teaching technologies that are accessible and affordable to children, and to adults (parents, students and teachers), as well.
- In the year 2020, employers will pay premium wages to workers who are increasing their performance potential by going (back) to school.

The strategy statement responding to these visions focus on the Vocational-Technical (Vo-Tech) aspect of the educational system:

- > More students will be enrolled in a Vo-Tech curriculum in the year 2020. We should improve this aspect of the educational system so that students can move more easily into the global marketplace.
- Residents and leaders of Chesterfield County should affirm the Vo-Tech student as much as we affirm university-bound students.

- In the year 2020, the line between Vo-Tech and academics will become blurred: "applied academics."
- Vo-Tech students should also have classical educational elements as well.
- Industry people will teach at the Vo-Tech level.
- To avoid an oncoming crisis, Chesterfield County needs additional health care technical training at the secondary level.

Case Studies

Great strides are being made to improve the status of vocational education in many areas. The National Council on Vocational Education has adopted recommendations for the content and orientation of strong vocational education programs. These strategies and recommendations emphasize subject areas that are germane to today's economy. Flexible programs should also be used in order to ensure that skills taught in such settings continue to meet the needs of employers. Partnerships between individuals in business and industry, and the vocational aspects of the education system, are the best means for doing so. The previously mentioned flexible mentor programs that are being introduced in various areas give students an opportunity to experience training in an applied environment as well as in an academic setting. In addition, many systems are strengthening the academic requirements that individuals in vocational programs must meet in order to ensure that students are well-rounded. Through such partnerships with business and industry, educational institutions that provide retraining opportunities are able to meet employment needs.

SECTION IV

VISION AND STRATEGIES FOR CHESTERFIELD COUNTY'S NATURAL ENVIRONMENT

The environmental problems facing our planet are enormous, complex and at times conflicting in their resolution. Environmental issues are receiving more attention now than ever before.

Environmental quality continues to decline, notwithstanding numerous conservation and protection efforts. No doubt, many lakes, streams, rivers, and estuaries in America are cleaner, and air quality in some urban areas is better than it was 20 years ago. However, to date, most clean-up efforts have addressed the most obvious symptoms of environmental degradation. We are only now beginning to recognize and understand the magnitude and complexity of impacts that uncontrolled toxic emissions into the atmosphere and improper ground disposal of hazardous waste are having on our planet's fragile ecosystem.

The Coverage of the Environment Topic

For its 1990 vision planning process, the Chesterfield County Committee on the Future, in consultation with the consultant team, decided on the "natural environment" as the specific focus of planning. The committee listed the following elements of concern within the natural environment:

- Air
- Ground and surface water
- Open space
- Plant and animal species
- End-state vegetation
- Rural qualities
- Soil
- Topography
- Wetlands
- Trees and green areas
- Natural light & sound

This section of the report presents an overall context and a brief background perspective on issues that comprise the topic of natural environment. The balance of this section is devoted to the specific issues, vision and strategy statements for Chesterfield County as articulated by the participants during their facilitated Vision 2020 sessions.

A Perspective on Environmental Trends

The scope and magnitude of concern for the environment has expanded dramatically in recent years; issues now range from the condition of the global biosphere to preservation of local wetlands. The interrelationship of localized and planetary impacts is becoming increasingly clear: problems such as waste disposal and air pollution, once considered to be the exclusive domain of communities, have become global issues.

The Global Aspects

The publicity of recent research findings and ecological circumstances have spurred new awareness of the planetary environment. Fluorocarbon emissions from refrigerants and aerosols are contributing to the gradual, yet accelerating depletion of the Earth's protective ozone layer; emissions from coal-fired plants are returning to Earth as acid rain; and wanton destruction of rain forests in Brazil and elsewhere may be contributing to the rise in global temperatures leading to the "greenhouse" effect. It is clear that many environmental problems transcend national boundaries and that every level of the world body politic has an appropriate and vested role to play in addressing and mitigating environmental deterioration.

National Perspective

Recent disasters such as the Alaska oil spill have renewed pressures for the enactment of stricter laws and penalties in the interest of greater environmental protection. The nation's courts have also responded favorably to the environmental issues before us; convicted abusers of the environment have consistently received stricter sentences and fines over the years.

Our understanding of the environment has greatly expanded in recent times through the use of new and better technological tools. The use of the space program, faster and larger computers, and an ever-increasing emphasis on environmental sciences and research in our schools and colleges have all contributed to an expanded understanding of our fragile ecosystems. As a nation, however, we have yet to resolve the inherent conflict between economic growth and environmental preservation.

Emerging Tools and Technologies

A review of a large body of recent literature on planning and growth management tools leads one to conclude that we know little about managing urban growth. The perception that rapid growth threatens the character and the quality of life of communities affected is unsupported by the evidence. Current panaceas of no-growth and growth controls as a response on the part of communities appear unfounded in light of existing evidence and information. There is much to learn about our ecosystems, the manner in which they work, and what affects them. There remains a vacuum in the availability of accurate and credible environmental information upon which effective development/environmental decisions could be based.

Science of Ecological Economics. There is a growing realization that the most obvious danger of excluding nature from economics is that nature is the economy's life-support system, and that by ignoring it we may inadvertently damage it beyond

repair. The new science of ecological economics is beginning to be put into practice by a recently formed, worldwide, multi-disciplinary group called the International Society for Ecological Economics. The concepts and rationale put forth include:

- Current economic systems do not have built-in methods for incorporating concerns about the sustainability of our ecological life-support system, nor do they adequately account for the value of ecological systems in contributing to our well-being.
- Gross national product (GNP), as well as other traditional measures of national economic performance, have come to be extremely important as policy objectives, political issues and as benchmarks of the general welfare. Yet GNP, as presently defined, ignores the contribution of nature to production, often leading to peculiar results.

For example, a standing forest provides real economic services for people: conserving soil, cleaning air and water, providing a habitat for wildlife, and supporting recreational activities. But as GNP is currently figured, only the value of harvested timber is included in the total.

On the other hand, the millions of dollars that Exxon spent on the Valdez clean-up and the billions that have been spent on the more than 100 other oil spills in the past two years-actually improve our apparent economic performance because cleaning up oil spills creates jobs and consumes resources, all of which add to GNP. The group contends that these clean-up expenses would not have been necessary if the oil had not been spilled, so they should not be considered "benefits." Further, there is no accounting for the depletion of resources, nor is there an accounting of damages done.

Geographic Information System (GIS). Geographic information system (GIS), a new computer-based technology which helps to define and implement an emerging concept of "sustainable development" intended to place energy-efficient, resource-conserving growth in a positive context, will substantially facilitate local development/conservation decision-making. GIS technology is not yet widely in use. It has the capability to provide and help interpret a wide range of ecological information to facilitate development and growth-related decisions at the local level. When fully and properly used, perhaps it will influence the negative perception of growth and help local communities make informed decisions with respect to development and the protection of natural resources.

The Public Sector

Ever since the enactment of the National Environmental Policy Act (NEPA) in 1969, new, stricter legislation and government-mandated standards have helped address and resolve the nation's environmental problems. Examples include:

- the passage of the Clean Water and Clean Air Acts in the early 1970s;
- the gradual phasing of stricter auto emission standards;
- the handling and disposal of hazardous/toxic materials, and the establishment of the Superfund for old hazardous waste disposal sites;
- the recent national legislation concerning the protection of wetlands; and
- continuous monitoring and enforcement of new and stricter standards in the workplace by the Occupational Safety and Health Administration (OSHA).

In response to continued and heightened interest in the environment, a pattern of public and quasi-public sector regulation has evolved over time which now covers all levels of governments as well as private, non-profit organizations, each with a primary, secondary or oversight responsibility in matters concerning the environment.

Federal Role. All federal agencies now, in one way or another, are involved in matters affecting the environment. The Environmental Protection Agency (EPA), created to implement the NEPA mandates, continues to function as the lead federal agency responsible for monitoring and regulating various facets of the nation's environmental quality. Agencies such as the U.S. Army Corps of Engineers and the Occupational and Safety Hazards Agency (OSHA), among others, have a direct responsibility in the monitoring and enforcement of national goals and standards concerning one or more aspects of the environment.

State and Local Role. While the federal leadership role in the environmental arena is still very important, the states, over the years, have assumed a pre-eminent leadership role in environmental matters by taking over many of the regulatory and enforcement duties which were once the province of the federal government. In addition, some states have taken the initiative of even stricter standards for the environment than those of the federal government.

The role of local governments in the effective protection of natural environmental resources, for the most part, is confined

to good, prudent planning and management of growth and development-the mitigation of impacts of growth and development-on which they have the widest interest, influence and responsibility. Within this context, local governments are concerned with such typical environmental aspects as:

- solid waste disposal,
- separation and recycling of solid waste,
- storm water management,
- watershed protection,
- protection of wetlands,
- municipal waste treatment/disposal,
- protection of sensitive areas,
- preservation of open space/green areas,
- soil conservation, and
- containment of point source pollutants.

Generally, local involvement in water and air quality issues is through participation in broader regional/statewide initiatives and programs. Recently, solid waste disposal issues have also received attention on the regional level. The recognition that many such problems transcend political boundaries and that the effectiveness of programs dealing with such problems is best measured on a wider scale will continue to encourage regional growth and environmental management in the years ahead.

Solid waste disposal, a critical environmental issue for many urbanized and rapidly urbanizing areas around the country, is one area where regional approaches are being considered. New state legislation regulating the closing and construction of solid waste disposal sites impose strict and costly standards and regulations governing localities in Virginia. The legislation, however, allows localities to enter into regional agreements for the provision of solid waste disposal services. As such, many localities (including Chesterfield and other Richmond area jurisdictions) are investigating the possibility of entering into regional agreements to share the burden of constructing new landfills which, it is estimated, will cost more than twice what they currently cost to construct.

The Chesapeake Bay Critical Areas Program, instituted by the three bordering states of Maryland, Virginia and Pennsylvania, regulates development along the shoreline and is an important example of the growing regional approach to problems of our ecosystem.

Maryland is far ahead in the process, having enacted its Chesapeake Bay Critical Areas Program regulating a 1000-foot strip fronting the shore and tributaries. The state has followed up with "Maryland 2020," a report and recommendations of the Drafting Committee to the Governor's Commission on Growth regarding growth, development, protection and management of the state's man-made and natural resources. The Committee's recommendations embrace the philosophy that:

- land use regulations should be promulgated which ensure more efficient use of land, and
- specific land use planning and regulation are most appropriately conducted at the county and municipal level.

The Maryland Committee provides for various incentive programs and funding mechanisms to achieve the identified goals. The centerpiece of the recommendation is the proposed Maryland Growth and Chesapeake Bay Protection Act of 1991. This growth management proposal is designed to reverse the adverse environmental and economic impacts of recent inefficient land consumption.

Virginia recently adopted a different type of protection program, while Pennsylvania has yet to act on the issue. There are many other examples of the trend toward regionalization of growth and ecosystem management in America. They include areas of California, Colorado, and some New England states, to mention a few.

The Private Sector

Not-for-Profits. Private, not-for-profit organizations play an important role in addressing environmental issues. These groups conduct important research, provide information to the public, organize grass roots legislative advocacy efforts, and monitor past, current and pending environmental problems, concerns and public initiatives. Such organizations as The World Wildlife Fund/Conservation Foundation, The American Audubon Society, The Sierra Club, and a host of other special interest groups are active at the national, state, regional and local levels.

Corporations. Numerous large corporations in the United States have embarked on environmental programs that may well have as much (if not more) of an impact upon the state of the environment in the future than government regulations and standards. Consumers and investors are becoming increasingly aware of and interested in the environmental policies of companies they patronize and in which they invest. Companies are discovering that spending money now to reduce waste and avoid environmental problems can save much more money in the future.

Large multi-national corporations such as Bayer, Dow Chemicals, DuPont, Monsanto and ICI are implementing such actions as:

- increasing the amount spent on environmental protection;
- working toward reducing toxic emissions;

- finding alternative uses for what has traditionally been considered waste or by-products;
- spending money on research to develop new and better biodegradable packaging materials; and
- donating funds and land for outdoor recreation and wildlife habitats.

A Perspective on Chesterfield County's Natural Environment

Chesterfield County is endowed with many natural resources and assets. It is located within the watersheds of two major rivers--the James and the Appomattox. The County is also endowed with other bodies of water, including Swift Creek Reservoir, and a number of natural creeks and streams. It also contains the 7,400-acre Pocahontas State Park. The County's topography is gently rolling, and it contains numerous areas classified as wetlands. Further, the County contains a number of places of historic importance. While recent, rapid urban growth has consumed substantial land mass, nearly 70 percent of the County's 285,000 acres is still undeveloped, resulting in both a suburban orientation and a rural context.

The environmental issues facing Chesterfield County primarily derive from the rapid growth and development that it has experienced over the past two decades. Growth has been allowed to occur in such a way that relatively low density development has consumed a substantial amount of land at an alarming rate. Development has occurred in a "leap frog" fashion, leaving substantial opportunities for in-fill development in the future.

Growth and development in Chesterfield County has also been addressed successfully through two planned communities: Woodlake and Brandermill. These communities have been recognized by the Urban Land Institute and the National Association of Home Builders. Both are located around the Swift Creek Reservoir. Brandermill, a 2,500-acre development, was started in the mid-1970s. Woodlake, a 1,500-acre development, was begun in the mid-1980s. Woodlake contains approximately 1,800 units of 2,500 total planned units.

Woodlake and Brandermill exemplify low-density developments offering high-quality lifestyles in Chesterfield, which might be compared to the planned new communities of Reston, Virginia and Columbia, Maryland. Reston, located in Fairfax County, is a new town with a planned population of 60,000 residents on about 8,000 acres of land. Columbia, a new town developed by The Rouse Company, is planned for 100,000 residents on about 14,000 acres of land in Howard County, Maryland.

As noted earlier, there are many weaknesses in our nation's overall system of land use planning, land use controls and

growth management. In recognition of the implications of unplanned growth and development, planning functions in Chesterfield County have recently improved. Nonetheless, planning has received a relatively low priority ranking as compared to many other administrative and management responsibilities of the County.

Planning functions are constrained not only by a small staff and now-outdated land use and zoning controls, but also by inadequate legal authority or powers granted by the state in these matters. In the Commonwealth of Virginia, State concerns have prompted legislative reluctance to extend local discretionary authority over land development controls and environmental protection; the State has even imposed additional state-wide mandates in these areas.

Overall Vision for Chesterfield County's Natural Environment

At the start of the community input process, participants were asked to articulate the purpose of having a vision for the natural environment in Chesterfield County in the year 2020. The following statements were derived from this exercise, and reflect the wide array of important attributes and goals that are on peoples' minds when they think about the value of the natural environment to their community:

- To describe an ideal state for characterizing the natural environment.
- To target action plans.
- To ensure that the survival of resources is balanced against prudent development and growth.
- To give input and assure the consideration of issues in the decision process of development.
- To provide a world that is healthy and enjoyable for future generations.
- To protect resources that have no intrinsic dollar value.
- To preserve and maintain a quality environment in the context of ecologically sound growth.
- To plan in advance for the protection of the environment and to marshal resources and technologies ahead of time.
- To have a natural environment to speak of in a future context.

- To create a "star" to reach for that helps set goals, practical action, and results to show that the vision has been achieved.
- To create a proactive process for the future.
- To provide direction and a framework for day-to-day actions that might attain ideal "wishes" for the natural environment.
- To forecast demands and assure that resources are available and adequate to meet those demands.

The Overall Vision

Viewed collectively, these purposes or goals for the natural environment in Chesterfield County in the year 2020 reflect the need to maintain a critical balance between development and growth and the protection of the County's natural environmental resources, as well as to create a citizenry that is informed and ready to act on behalf of the County's natural environment. The resulting overall vision for the natural environment articulated by the participants is as follows:

In the year 2020, the citizens of Chesterfield County will have a high degree of awareness about their natural environment and its needs. They will understand the issues and concerns of protecting and preserving natural resources and will demand that the county care for these resources.

With respect to the natural environment, the County will:

- Stimulate, encourage and promote a higher quality of life.
- Provide and ensure the availability and prudent use of clean and pure water and air.
- Protect natural resources (land, air, water, animal habitats).
- Assure safe and manageable disposal of waste.

The discussion of these key aspects of the overall vision resulted in additional vision statements as follows:

- Chesterfield County will have forums that bring disparate and potentially competing/conflicting interest groups together to discuss and develop consensus and balance regarding policies and solutions about the natural environment.

- The impetus for action plans will be generated from informed citizen groups and interests and then carried out by local government.
- The Chesterfield County Comprehensive Plan will be an innovative tool for achieving the style of development that is resource-efficient, conserves the County's environment, and indeed, reflects the kind of natural environment that the citizens are looking for.
- The County, supported by the people, will commit the resources to achieve the desired quality of life.

Strategies

Participants in the Vision 2020 process recognized that in order to achieve the overall vision for the natural environment, it would be necessary to:

- create an informed citizenry which would motivate and encourage specific public actions;
- build consensus among the various competing interests on policies with respect to development and environmental preservation;
- improve and use the comprehensive plan as a tool for controlling and guiding development and resource preservation; and
- commit public resources to achieve the overall goals.

The participants discussed specific strategies and actions which the County should pursue in order to achieve the identified visions. These strategies represent actions that might be instituted now in order to ensure that the vision for the natural environment in the year 2020 comes to fruition. At the end of discussion, the listed strategies were rank ordered, thus establishing issues of highest priorities.

The strategies that resulted reflect, among other things, an understanding on the part of participants that environmental problems do not stop at local, state or national jurisdictional lines. Rather, the focus of the strategies participants developed centers around the need for heightened awareness, better planning efforts (which is within the realm of local control) and regional cooperation.

The presentation of strategies for the natural environment is organized under the following five major headings:

1. Citizen Involvement
2. Bringing Competing Interests Together

3. Goals and Standards
4. Land Use Planning
5. Education/Public Awareness

Citizen Involvement

The involvement of Chesterfield County citizens in the decision-making process was a theme expressed for all of the vision planning topics. Citizen involvement is viewed as a critical aspect of community planning. "Inclusion" was the major issue for citizen involvement in planning for the natural environment, expressed as the following strategy statement:

- > All groups, interests and members of the community should be included in planning for the natural environment.

To address this broad strategic orientation, the participants listed the following six tactical elements:

- Encourage the development of neighborhood councils as an active part in planning for the natural environment.
- Encourage the training of "citizen planners" who can be a resource for all aspects of the planning community.
- Encourage the supervisors and advisory committees to include issues regarding the natural environment.
- Include the elderly in the process of planning for the natural environment (they have been left out of the process; they want to participate; and they do have a need to participate).
- Planning for increased population should include all segments of society so that the entire population can be served.
- People from academia should be brought into the process in order to blend new concepts with practical reality.

An important component for citizen involvement is the encouragement and formation of neighborhood councils, a strategy suggestion made throughout the planning process. The suggestion that training be provided to develop a cadre of "citizen planners" also reflects the need for continued public education and awareness programs emphasized by the participants.

Bringing Competing Interests Together

The natural conflict between economic growth interests and preservation activists was a fundamental concern of the Vision

2020 participants. They recognized that without the cooperative participation of various competing groups in issues concerning growth and preservation, Chesterfield County cannot expect to realize its community vision for the natural environment. In order to bring competing interests together the participants suggested three important action orientations.

Community Forums

The first set of actions recognizes the need for ongoing discourse between various parties to reach consensus. Specifically, the strategy articulated by the participants is as follows:

- > The County must develop and fund broad-based forums for bringing competing interests together to reach a consensus about and achieve the vision for the natural environment.

The following specific tactical aspects of the forum concept were listed by the participants:

- The public forums and the issues discussed there should be regional in scope.
- The County government must fund the public forums.
- County government officials (especially the supervisors) must be actively involved in the public forums.
- The Chesterfield County Committee on the Future is the "core" of the public forums.
- The public forums should include those in the community who make something happen.
- The public forums will need to solicit ideas from new people as well as ideas from those who are currently active.
- - The public forums should provide training in the governmental decision-making process.

Informed Citizenry

The body of information and research about the environment is large and complex in scope, difficult for the lay person to fully comprehend, and, at times, contradictory in assessment and recommendations. As such, not only is there little public understanding about how ecosystems work and what affects them, but also, no uniform criteria upon which clear development/environmental preservation decisions can be based. Thus, in order for the public to play a knowledgeable role in resolving

environmental issues, the Vision 2020 participants proposed the following strategy statement.

- > Information from a variety of sources and perspectives should be provided so that the people participating in the public forums (described above) can make better, more informed decisions.

In support of the above, the participants suggested two strategy elements:

- The County should develop a research capacity for specific topics regarding the natural environment.
- Issues of the natural environment must be viewed both from a regional perspective (general issues) as well as from a local perspective (specific issues) if the County wants to be proactive.

Participants in the Vision 2020 process recognized the need for research and an accurate database on Chesterfield and the regional natural environment. This is obviously an important step, which would also allow appropriately focused interaction between County staff and the staff of regional and state organizations involved in protection of the natural environment.

Reaching Consensus

Participants in Vision 2020 recognized that the entire spectrum of the community-public as well as private interest groups-will need to respect each others' underlying motivations, as exemplified by the following statement:

- > In order to reach consensus, the competing interests will have to come together, each giving up some self-interest for the good of the whole.

Various interests will have to work toward a mutually acceptable balance in order to implement prudent policies and standards with respect to growth, development and the protection of the local and regional natural environment. Two tactical opportunities were noted by the participants.

- The County leaders should change the political risk/reward ratio in order to have more open discussions that are free of self-interest.
- If the County is to change the relationship of development/growth versus the natural environment, it needs to change the return on investment that developers and the public are looking for.

Goals and Standards

With respect to goals and standards, the participants in Vision 2020 expressed the following two major strategy statements:

- > Chesterfield County should start its process NOW because in 20 years all the important issues of the natural environment will be "in my back yard."
- > Chesterfield County should develop substantive and specific goals and standards for the condition of the natural environment that its citizens want-with specific timeframes for action.

Seven specific action statements were suggested:

- Chesterfield County should follow the patterns, characteristics and criteria that are identified in other communities which have served as role models for excellence.
- The County should quantify specific elements of the natural environment and measure those quantities against issues of population density so that people can see specific relationships between development/growth and preservation/conservation.
- The County should keep abreast of regional and national standards, identify how Chesterfield County will be affected by those standards, and establish what the County needs to do in order to meet those standards.
- The County should set its own goals and standards and not be the victim of outside regulations.
- The objectives for the natural environment must serve the whole population of the County and must account for the variety of standards within its entire population.
- The County should create a balance between growth/development and preservation/conservation.
- The County should change its attitude and direction so that it won't end up simply where it is headed.

Comprehensive Planning

During the Vision 2020 discussions, there was substantial agreement that a comprehensive planning process and a well-written comprehensive planning document are the most important tools available to realize economic development and

environmental goals. This viewpoint is reflected in the following strategy statement.

- > The Comprehensive Land Use Plan is the tool to create public forums that bring competing interests together and should be used as such to better protect the natural environment and meet the interests/needs of the County.

A range of related action steps were suggested and discussed by the participants:

- The County should pull together plans that are already in place, to see and to use what has already been studied.
- The County's long-range vision for the natural environment should have five-year periods for review and evaluation.
- The Comprehensive Land Use Plan should include an evaluation of its impact.
- The Comprehensive Land Use Plan should be developed from the grass roots up.
- The County's Comprehensive Land Use Plan should anticipate problems, not react to them. It should require citizen input and should be revisited as necessary.
- Public awareness of the Comprehensive Land Use Plan is crucial. The County needs to educate the public and encourage public participation in the planning process.
- The County should continue the use of detailed land use planning with citizen committees that include broad community representation.
- The Comprehensive Land Use Plan should be fluid, dynamic and general, not specific.

A second major strategy step identified by the participants includes consideration of some of the items-design, density, place identify, open space, etc.-identified above.

- > The County should have an identity: a sense of place and character. The County needs to preserve those places within the County that exemplify that character.

The supporting action steps suggested by the participants include the following:

- The County's older population will want higher density development.
- Chesterfield County should offer a variety of density options and choices.
- With regard to in-fill development, the County should become more flexible, not less flexible.
- The County needs additional public facilities at a variety of locations within the County's district.
- The County should permit and expedite development in areas of the County that already are zoned so that it does not have a tax shortfall in the future.
- The County needs more accessible open space (trees and green space) for enjoyment so its citizens can benefit from the County's natural environment in 2020 as they do today (there should be an authority or governmental department to do this).
- The County should explore opportunities for more public/private partnerships in the development and maintenance of open spaces and parks (more citizen participation and joint ventures).

Education and Public Awareness

Citizen involvement and public education/awareness considerations were a high priority throughout the 1990 vision planning process. With respect to the natural environment, discussion focussed on the use of communication technology to impart information to citizens and to augment awareness of issues affecting Chesterfield County and the broader region. The strategies and action statements suggested by the participants include the following:

- > Chesterfield County government should avail itself of new technologies and should invite the creators of these technologies to show their wares.
- > Chesterfield County should put in place a better system of communication/education to increase public awareness about the natural environment.
 - Local cable television stations should have environmental awareness programs.
 - There should be an environmental awareness curriculum in the schools.

- The County needs to use media technology to provide local C-Span-type programming for the public.
- The County should find ways to get the media/communications industry to bring new communications technologies to this process so that people can get additional information and viewpoints about the natural environment.

Section V

VISION AND STRATEGIES FOR TRANSPORTATION IN CHESTERFIELD COUNTY

Many residents of suburban America, including the citizens of Chesterfield County, rely on their personal automobile to complete a part, if not all, of their daily routines. As a result, personal vehicular mobility has been an increasingly dominant factor in the growth and development of American communities.

In urban areas, transportation remains limited to mass transit and the automobile, while in most suburban and outlying rural areas (such as Chesterfield County), transportation is now virtually impossible without a personal vehicle. As such, suburban Americans have become reluctant to leave the apparent sanctuary and convenience of their cars to venture onto mass transit systems.

This section of the report presents the vision and strategy statements for transportation in Chesterfield County that were developed by the participants in the Vision 2020 planning process. The section begins with a contextual overview of transportation topics, including the current status and projected future of transportation issues, and the current roles of the federal, state and local governments in providing effective transportation systems. Case studies and external research may be found in Appendix C.

Transportation Issues

Overview

For several reasons, transportation issues within American communities are among the most complex and difficult to resolve. Transportation "stakeholders" at the local level are many and varied, including those who create demand (land developers), the users (citizens and commercial carriers), planners (primarily local government), and funders (primarily state and federal government). Each stakeholder interest has its own set of beliefs and standards which shapes their respective vision for the ideal transportation system. Because of their different outlooks, the stakeholder visions often contradict one another, making long term planning a highly charged process.

Several practical realities add to the complexity of transportation planning. First, rapid growth and a lack of long-term land use planning has strained the vehicular capacity of many suburban transportation systems. In order to serve remote subdivisions, many small roads are built off of two- and four-lane secondary roads. Initially, the impacts of such a

pattern are not felt. However, as growth increases, this type of development overburdens the secondary roads to the point that they are almost impassable at certain peak periods.

Changing demographics and lifestyles have also led to an increase in the demand for transportation. More women are working outside the home than ever before, adding to the strain on roadways during peak hours. Increases in the number of households, higher median incomes and the median age of the baby boomers all contribute to increases in travel. Changes in employment patterns, as exemplified by circumferential suburb-to-suburb commuting, have also placed a strain on road networks originally designed for commuters travelling to and from the center city.

The federal highway program which began in the mid-1950s further reinforced America's dependence upon the automobile. While the nation is now linked by a vast highway network that covers 43,000 miles, the 34 years of federal highway-oriented funding (now in its last year), have focused localities on roads and diverted attention away from alternatives to roads. Under the federal program, funds had to be spent on highway construction regardless of what modes might be best suited to the area. The net result of the federal program has been a severe lack of multi-modality, or a transportation system that depends almost entirely upon the automobile at the expense of other modes of transportation.

With the end of the federal highway funding era, many localities have begun to investigate new methods for transportation. However, many alternative options, such as mass transit, require financial resources that are simply not present in most communities. In addition, since the focus of the federal highway program was one of construction rather than maintenance, many of the existing roadways are now in great need of repair, further adding to the local burden of transportation funding.

In summary, the issues and challenges facing our nation's transportation system are summarized as follows:

- The end of the interstate highway system program has left the national government with an opportunity to invest in funding for other modes of transportation.
- Much of the nation's highway system is in great need of repair.
- Funding for transportation is shifting. States and localities are now bearing an increased burden of the cost of construction once covered by the federal government.

- States are now having to bear the majority of the cost for mass transit construction. This has spurred an increased interest in light-rail systems which are less expensive to build than commuter rail systems.
- Changing demographics and poorly planned suburban growth in both residential and commercial development have led to high levels of traffic congestion at the local level.
- More people now commute between suburbs to work rather than into the center city. As such, most commuter routes are oriented toward radial commuting from the suburbs to the downtown. Roadways that connect suburbs in a circumferential fashion are normally not prepared to handle the volumes of traffic peak hours now provide.
- Americans remain dependent and are actually increasing dependence upon the personal vehicle for transportation.
- New environmental emissions standards may further complicate transportation planning, with areas that are out of compliance facing severe cuts in federal aid for transportation.
- There is a need to change conventional thinking about transportation from one of "either/or" to one that focuses on all aspects of transportation working together to increase mobility.

The Role of the Federal Government

Many of the federal infrastructure programs funded and initiated in the 1950s and 1960s are reaching completion, including many of the major transportation infrastructure programs. Without new, major developments in the federal role in infrastructure, the responsibility for such is now falling upon the states and localities. With much of the national infrastructure targeted for construction in place or nearing completion, it is argued that there is less justification for the federal government to be involved in such matters.

New federal infrastructure programs have not been implemented and existing highway, waterway, airport and mass transit funding is in question for the future. The federal government appears unwilling to change this trend, arguing that the infrastructure necessary on a national level is now in place. The burden rests upon state and local governments to further refine transportation and other infrastructure programs at the intra-state and local levels.

The decreased emphasis on federal funding of transportation infrastructure may have a beneficial impact on development of alternative modes of transportation. Under previous federal highway programs, each type of transportation was allotted a certain amount of funding with which projects could be developed. For example, funds could not be diverted from highway uses to supplement the construction of mass transit systems. As a result, the transportation programs of the past are rooted in inflexible project-specific funding. With decreased emphasis on federal funds, states and localities are now afforded the flexibility to decide what types of programs best fit their transportation needs. As such, transportation policy will be able to move in the direction of a flexible, efficient, multi-modal system that meets the needs of a community rather than one that is successful only to the extent that it has managed to secure federal funding.

The Role of the Commonwealth of Virginia

The Commonwealth of Virginia plays a direct role in local transportation systems. The reduction in federal assistance has enhanced the level of funding states must invest in infrastructure. The increased role in the funding process also affords the state increased power in the decision-making process.

The Commonwealth contributes funds to localities for transportation construction and implementation of transportation programs. This support may come in the form of direct funds to localities or, more frequently, in the form of funds allocated to a region as a whole. The state has expressed a clear preference for granting of funds to regions rather than to individual localities. This preference is reflective of the fact that transportation is normally seen as a regional issue, where localities do not operate in a vacuum. Similar to the natural environment, transportation problems do not normally stay within artificial political boundaries unless some particular action has been taken to cause them to do so.

State contributions to Chesterfield County for road construction and improvements will amount to roughly \$80 million over the next five years. In addition, until the recent budget crisis, the level of state funding going to the County for transportation purposes was also increasing at a significant rate. Estimates place the 1987 level of total state funding for new road construction alone to be roughly \$8.4 million, reflecting an increase from 1980 of \$2.2 million. This growth in the amount of state funding for new road construction amounts to a 35 percent increase, a rate greater than the population growth rate for the County over the same period.

The state also exerts control over the level of planning that may take place to guide proper transportation management. Because the type of planning required to facilitate the flow of

traffic and reduce congestion requires that land use controls be implemented and strictly adhered to, the state maintains control over such matters. This point is discussed in greater detail in the sections concerning the natural environment and government structure.

The Commonwealth of Virginia does afford localities the ability to enter into consolidation agreements for the provision of services such as transportation. Specifically, in the area of transportation, the state actually encourages such agreements, taking the perspective that transportation is a regional rather than specifically local issue.

Contingent upon the fact that the level of debt incurred is within certain limits, the state also allows counties and cities to finance their own construction of transportation projects through revenue bonds and tax-supported debt. While localities are not afforded the right to raise revenue through the imposition of income taxes or sales taxes that have not been approved by the General Assembly, Chesterfield is afforded the ability to require cash proffers from developers to offset the cost of new growth. In many cases, however, the County has opted to require developers to make much needed road improvements around the area of development rather than pay the proffers.

The Role of Chesterfield County

Transportation is often an emotional issue in Chesterfield County. Increases in traffic congestion, new debt-financed road construction and talk of development proffers and other means for making developers pay the price of development spark heated debate.

Based upon estimates of population and commercial development during the next five years, the County projects it will need between \$158 and \$194 million to cover the cost of needed road improvements. An estimated \$80 million will be received from the state during that period, leaving a revenue shortfall of \$78 to \$114 million. The demand for highway funds is based upon the following average costs in Virginia for road improvements, as provided by the Chesterfield County Director of Transportation:

- \$2 million/mile to reconstruct existing two-lane road
- \$3.5 million/mile to widen two-lane road to four lanes
- \$6 million/mile to widen four-lane road to six lanes.
- \$6 million/mile to construct new four-lane road.

According to the same cost estimates, the County expects to have a \$300 million shortfall in transportation funding by the year 2005. This figure reflects \$600 million in needs, offset by \$300 million in anticipated state revenue. It is important to note that the cost associated with improving existing roadways is, in essence, as high as the cost associated with constructing a new road altogether.

Due to the high costs of improving the County's transportation system, many residents have called for restrictions on growth or the strict adherence to a developer cash proffer system to recover or avoid some of these costs. The argument states that since the Commonwealth has failed to keep up with growth in its funding for transportation, the developers should bear some of the cost burden of development. However, as was stated earlier, the state has kept up with and actually surpassed population growth rates in the amount by which it increased transportation funding.

Other studies, indicate that the County's current transportation problems do not necessarily stem from growth and a lack of state funding but from poorly planned development. The County has done a good job of building both circumferential and radial commuter highways in anticipation of demand. Rather, increasing costs and congestion stem from the style of development that has been allowed to occur along secondary roads that feed into the major highway network. Subdivision development along winding country roads and in areas not easily accessible to the commuter highways the County had the foresight to construct has harmed the County's ability to service the transportation needs of new residents. In addition, subdivisions with only one entrance along these already burdened secondary roads further slow the flow of traffic. Consequently, transportation officials have found themselves trying to keep up with the residential developers in order to avoid a crisis.

The last point concerning Chesterfield's transportation problems has to do with the way in which commercial development has been allowed to occur and its location relative to major areas of residential development. Most of the new commercial development in Chesterfield has been strip-style development along several of the older main radial arteries. The number of curb cuts that have been permitted as access to developments has been so high that traffic slows considerably along these roads. Also, most of the strip commercial development has occurred in a few key areas that may or may not be located within close proximity of the majority residential areas.

Commercial development has not been permitted in such a way as to serve residents by having it close by. Instead, it is relatively concentrated in areas that are some distance away from where most residents now live. For example, between 1980 and 1987, population in Chesterfield grew by 27 percent,

however, residents were driving 47 percent more. The number of daily miles driven in the County in 1987 was 3.9 million. While this phenomenon is due in part to the changing demographic trends discussed earlier, Chesterfield's problems regarding increases in miles driven also stem from the fact that the County has allowed significant numbers of low-density development projects. Low densities require that development move further and further away from major employment and shopping centers, thereby increasing the distance one must travel to purchase groceries or go to work.

Chesterfield's transportation system is not yet in the midst of a crisis, however. The concern on the part of transportation planning officials is that if appropriate planning and corrective measures are not implemented in the near future, the concerns expressed in strategies to be discussed subsequently will be realized. It is for these reasons that the Chesterfield County Committee on the Future chose transportation as a topic for study during the vision planning process.

The Vision for Transportation

Growth and transportation system effectiveness are directly related. Unanticipated or unplanned growth can make a transportation system ineffective. An ineffective, overburdened transportation system reduces the likelihood of further growth. In order to ensure that Chesterfield's transportation system continues to function into the year 2020 and is able to continue to be a positive factor in the overall economic growth of the County, the Committee on the Future identified transportation as a topic for the 1990 Vision 2020 planning process.

The Vision 2020 discussion of transportation began with participants listing the role that transportation can and/or will play in the year 2020 in Chesterfield County. The ideas generated by participants are as follows:

- The transportation system will continue to be the primary force in shaping the County physically, and operationally.
- Transportation will lead Chesterfield County to be a major industrial center.
- Transportation will play a major support role in the economic health of the County, providing a multi-modal system for ease of access and the provision of basic, sound services to the people.
- The quality of the transportation system will have positive and negative impacts on the quality of life in the County and how business is conducted here.

- The transportation system controls growth and the economics of the County; it will be reviewed informally on a day-to-day basis as people ask themselves: "Do I want to live here, work here, develop my business here?"
- The transportation system will move a lot of people at one time (mass transit).
- The transportation system keeps the community close-knit by providing mass transit with no headaches.
- The transportation system will provide easier access to and within the County.
- The transportation system will make the difference between being congested like Fairfax County--or not.

In shaping their overall vision for transportation, participants in the Vision 2020 process felt it important to assess what works, and what is not working, in the County's transportation system today. The list on the following page represents a matrix that was developed from the sessions.

Working

Regional and state focus

Tolls are accepted

Business and government working

Maintenance

Congestion not bad

Bonds as revenue generation

Access to other modes

Single occupant vehicle

Highways work for some

Accessible airports

Recent improvements

Government working toward transportation needs

Not Working

State/region/County problems due to lack of political clout

Tolls are not expedient for moving traffic, do not provide sufficient revenue

Business and government are competing interests

Not prepared to handle growth

No adequate funding, pay as you go is insufficient

No mass transit, single modal

Highways do not work for others, will not be effective in future as population ages, increases, etc.

Not effectively identifying planning needs

Need effective implementation of alternative modes of transportation, look at radial vs. circumferential

As a result of this discussion, several key points were noted. First there was a general acknowledgement that present traffic congestion in the County is "not bad." Second, there are two key themes that threaded throughout the discussion: a perceived lack of proper funding for the further development of the transportation system, and an expressed need for better transportation planning as well as better land use planning in the County.

Following the discussions on the role transportation will play in the County in the year 2020 and the current status of transportation in the County, participants were asked to provide what they felt would be a workable vision for

transportation in 2020. The resulting vision for transportation reflects the two aspects of the issue that were identified by the participants:

The Vision from the User's Perspective

In the year 2020, the transportation system of Chesterfield County will have alleviated or mitigated the problems of the past. The prevailing transportation system in 2020 will be a comprehensive, multi-modal and well-planned county-wide transportation system, providing and accommodating movement for all segments of the population in a way that is:

- Safe
- Modern (state-of-the-art)
- Accessible
- Affordable
- Rapid
- Convenient (where you want to go, when you want to go)

The Vision from the Planner's Perspective

In the year 2020, the transportation system of Chesterfield County accurately reflects the plans and commitments that were made by the citizens of the County in the early 1990s.

It is not surprising that users and planners have different views of successful transportation systems. As discussed later in this section, users seek direct and immediate gratification from the transportation they use. Transportation planners work with development lead times of up to 30 years in order to meet the user's future needs as perceived today. As such, the planner's view requires immediate actions (such as right-of-way acquisition) that the user may not understand or experience for many years down the road. Thus, the user's side of the vision reflects the multitude of expectations that residents have for and demand from a transportation system. The planning side vision is based on a "tell us what you want and we'll plan, design and build the best-suited system to meet your needs" attitude.

Strategies and Actions for Transportation

The transportation strategy statements developed during the Vision 2020 discussions fall within four large topical areas, as follows:

- Planning
- Funding
 - Land-Banking

- Regional/State Funding Mechanisms
- New Mechanism
- Modes
 - Multi-Modal
 - Mass Transit
 - Roadways
- Public Awareness

Planning

There are essentially two aspects to planning for transportation, the transportation plan itself and the transportation plan as a guiding tool within the comprehensive plan. Planning for transportation normally occurs 20 years or more before a transportation system is in place and fully operational. Consequently, it is critical to formulate strong, effective transportation plans at the beginning of the process. However, because of the time frame involved, flexibility to adjust is a required characteristic of any transportation planning process.

Transportation and Land Use Planning

The second aspect of planning concerns the incorporation of transportation system planning within the comprehensive plan and vice versa. In order for land use and transportation planning to be effective, there needs to be coordination among the two planning efforts. Neither land use planning, in general, nor transportation planning, specifically, operates within a vacuum.

The strategy statements that were developed within the Vision 2020 discussions reflect both aspects of planning for transportation and suggest ways to improve the environment within which land use and transportation planning may operate.

- > We need to tie in long-range transportation planning with the same comprehensive land use planning that we establish for the natural environment.
 - Zone for roads.
 - Expand the time horizon for planning to include 20 year planning cycles.
 - Establish a good interrelationship between planning for transportation systems and land use planning.
 - Encourage the County supervisors to develop and articulate a local transportation policy and plan.

- Coordinate the planning effort at the local level and feed those plans up to the state and federal authorities.

There was agreement that more planning in the County is needed and that land use and transportation planners and their plans must work together in order to adhere both to mutual and to respective objectives. Many localities have established plans for coordinating transportation and land use planning efforts in order to improve the effectiveness of both tools. This strategy comes with the caveat that state restrictions in Virginia constrain county government powers with respect to land use planning. These restrictions will be discussed further in the following section on government structure.

Mass Transit and Planning

In addition to the general recommendations on the concerted efforts of transportation and land use planning, strategy statements were developed regarding planning for mass transit. As the reader will note, the Vision 2020 participants expressed two conflicting strategies with respect to planning for mass transit. The first view suggests that the County's population density should and will continue to increase:

- > The transportation master plan for the County must have a mass transit component.
- We should plan for high-density land uses in appropriate locations so that mass transit systems can work.

The second strategy statement is based on the view that the County is currently and will remain low-density environment in the future.

- > We need to develop a transportation system that works well in a low density environment.

Case Study: Land Use/Growth Management and Transportation. Contra Costa County, California has created a comprehensive land use plan that both incorporates and is inherently tied to transportation. The main aspects of the plan which concern transportation and land use planning working in concert include:

- Transportation funding from a local sales tax is contingent upon adoption of the land use plan.
- The formulation of the land use plan was fundamental to receiving voter support for the imposition of the sales tax.

- Steps must be taken to reduce the use of the single-occupant vehicle.

A more detailed description of this program and the events leading up to its formulation, adoption and implementation are included in Appendix C.

Funding

Funding was seen as the most critical issue facing transportation in Chesterfield County. At the same time that construction and land acquisition costs are increasing, the level of assistance coming from the state and federal governments is decreasing. Acknowledging this, many participants felt that the County should work to secure funding in alternative ways. Strategic statements concerning funding for transportation projects received the highest rank ordering scores within the topic of transportation.

Land Banking

Land banking strategy statements received the highest score in the rank ordering process, suggesting that funding for adequate land banking has the highest priority. This scoring reflects the understanding that the land purchase/access process: (1) must be done well in advance of system implementation; (2) is a complex and often lengthy procedure; and (3) tends to absorb a large portion of the costs associated with transportation construction.

As a strategy that stresses critical present action for future results, land banking is one of the most urgent strategy considerations of participants in the Vision 2020 process. Concern was expressed during the Vision 2020 meetings that the longer one waits, the more difficult it will be to secure land and rights of way. The strategy is as follows:

- > We need to land bank/reserve rights-of-way in a permanent fashion now to meet the demands of the future.

The following supporting strategies and actions were also offered by participants:

- Work toward acquiring legislative teeth in the General Assembly for reserving rights-of-way.
- Develop alternative methods for reserving rights-of-way.
- Use regional county coalitions to expedite the land banking of rights-of-way.

- Land bank NOW to keep us growing and to maintain the current status of our natural environment.
- Develop a method to expedite commercial development approvals (fast track the process).
- Maintain and keep up the railroad rights-of-way between now and the time that population densities are high enough to warrant implementation of additional rail services.

Case Study: Public-Private Partnerships for Transportation Funding. Denver, Colorado is currently experimenting with using the private sector to assist in acquiring rights-of-way for highway construction. The East-470 Authority is a private organization that is sponsoring the construction of a beltway around Denver. The funding for the toll road is supported by anticipated toll receipts, however, the rights-of-way for building the project were granted by the various property owners during negotiations with the Authority. Public-private partnerships are discussed in greater detail in Appendix C.

Regional/State Mechanisms

In addition to the need to land bank, the Vision 2020 participants also felt that there needed to be more support on the regional and state level for the funding of transportation. Due to the fact that most transportation projects are not exclusively within the domain of one jurisdiction, and because of the magnitude of resources involved in acquiring land and constructing new roadways, many participants felt that the County government was poorly equipped to fund major transportation projects on its own. The following strategy and supporting actions were articulated:

- > Funding for our transportation should be generated on a regional or state level.
 - Establish a regional gas tax.
 - Establish a regional taxation mechanism for the area's transportation system.
 - The state should use its AAA bond rating to build more roads.

While these methods may appear to be financially sound, state regulations determine the types and purposes of local taxes that can be levied. While localities do have the ability to levy gas taxes specifically for transportation funding, the amount of the tax is limited by state government. As such, the County would have to work with the state government and regional transportation authority to expand its powers in order to

generate the level of revenue necessary for long-range land banking and the funding of new roadway construction.

Developing New Funding Mechanisms

Since revenue-generation by localities is generally controlled by the State General Assembly, creative private sector funding sources will have to be developed (the Denver case study previously cited may provide a good example). The strategy statements articulated regarding this issue are as follows:

- > We need new financial mechanisms for funding our transportation system.
 - Rename "pledge bonds" and require voter approval for bonding.
 - Find money to buy transportation rights-of-way.
 - Develop creative proposals to compensate land owners in order to reserve rights-of-way on privately-owned land.

Modes

Transportation systems in this country have traditionally concentrated on the personal automobile. However, with traffic congestion, the rising cost of roadways, low-density development, and the aging population, transportation planners are examining alternatives to the car. During the Vision 2020 sessions, strategy statements were developed for: (1) the use of a multi-modal approach; (2) the use of mass transit; and (3) the traditional use of the automobile and roadways.

Multi-Modal Transportation

In the past, government funding structures have dictated that transportation systems be either automobile-oriented or mass transit-oriented. A multi-modal approach suggests that all modes of transportation are incorporated into a transportation plan, with the respective modes best fitting the needs of a particular geographic area.

Strategy for a Multi-Modal Approach to Transportation. The strategy statement set forth below focuses attention away from the personal vehicle. Included within the concept of multi-modal transportation is the need to serve people who do not have access to cars.

- > We need to better develop transportation methods that serve as alternatives to the automobile.

Participants also developed supporting action statements for multi-modality. These statements paid particular attention to the use of rail service and are as follows:

- Explore railroads as an option within our transportation system.
- Use more interstate rail connections in Chesterfield County.
- Develop transportation systems for those segments of the population who do not have cars or cannot drive.
- Use bus services to connect to Amtrak in Henrico County.
- Develop new, smaller alternative transportation technologies.

Mass Transit

While mass transit is often seen as a cure for traffic congestion, the number of Americans who commute to work using mass transit is relatively small. Because it is so expensive to construct, mass transit systems usually require that they be located in high-density areas for even the possibility of profitability. As Chesterfield County is currently a low-density community, the strategy statements set forth below could be implemented only in the long range, after stronger planning and land use measures have been implemented and proven to work.

- > We need mass transit systems to move many people at once.

Specific clarifying strategies for mass transit included:

- Develop a mass transit commuter system that utilizes the existing rail track systems in the County.
- We must have a regional mass transit plan.
- Have the mass transit system run on a complete schedule.
- Develop pedestrian access to the County's mass transit system.

Roadways

The next set of strategies serves to reinforce the existing transportation structure in the County today. The first concerns the desire that the County develop its own road

system; the second, that circumferential roadways be completed; and the third, maintenance of the existing structures.

Strategies Concerning the Use of Roadways

- > The County should develop its own road system.
- > We need to complete the inner and outer circumferential highway system in the region.
- > We should fine-tune and maintain the existing network of roads and bridges rather than focusing on new development.

Public Awareness

The need for public awareness is an issue that ran throughout all of the Vision 2020 topics. The following strategy statements were put forth to increase the level of public awareness about transportation needs in the County.

- > We need to increase public awareness about the needs of transportation planning through a variety of venues.
 - The County government should educate the public about the methods and costs of improving our transportation system.
 - We need an annualized comprehensive transportation plan in order to enhance public awareness about transportation planning.
 - The business community should be more active in educating the public about the "crises" that we have in long range transportation funding.
- > We need a citizen's committee in the County dedicated to transportation planning.
 - Neighborhood councils (the units of government) should be the mechanism for transportation planning input from the citizens.
- > When planning for transportation, we need to KNOW (not just believe) the facts.

In addition to the need for the public to know about what is going on in Chesterfield County, some participants felt that it was also important to know about mistakes made by other communities. The experiences of other communities can be used as examples of actions and conditions to emulate or disregard.

SECTION VI

VISIONS AND STRATEGIES FOR LOCAL GOVERNMENT IN CHESTERFIELD COUNTY

Effective local government is essential to attracting new growth and economic development. As the residential and employment sectors of a community grow and become more diverse, however, greater strains are placed upon a local government's ability to continue both to provide adequate services and to respond to the needs and concerns of all residents.

The Committee recognizes that County government structures must allow for continued provision of high quality services to an increasing number of residents and, at the same time, address the myriad concerns and interests of an increasingly diverse population base. As such, the Chesterfield County Committee on the Future chose government structure as one of the topical areas targeted for review in the 1990 vision planning process.

Local Government: Issues and Responsibilities

Deriving power from the states, local governments are responsible for providing leadership in areas that are specific to a given locality (the preservation of a particular natural resource, for example), or that are perceived to be better administered on a smaller, more personal level (education or social services). Local governments often are able to maintain greater levels of communication with the constituency since the number of people they serve, comparatively, is fewer than that of state or federal governments. As the economic and social nature of many communities becomes more diverse and complex, local governments are finding it increasingly difficult to meet the demands of their constituencies.

Concerns about growth and the demands it places on local government have created a renewed interest in the function and structure of local governmental bodies. For example, the topical areas discussed in previous sections of this report require action on the part of local government in order to reach the visions set forth for the year 2020. In order to achieve these visions, however, local government must be capable of operating in a fashion that is flexible, efficient, responsive and open.

Local Government Structures

The degree to which a local government is capable of responding to the demands placed upon it is rooted in the structure of the government and the amount of power localities are able to

exercise over issues and concerns. As a visible factor affecting efficiency, the structure of government has become, in many areas around the country, a topic for discussion and debate.

There are three basic administrative structures under which local government may operate, all of which originate from Seventeenth Century British structures. The three forms are the Commission form, the Administrative form and the Executive form, each of these forms are discussed in detail in Appendix D of the report. A fourth form, known as Consolidation, is also discussed in the Appendix.

While there may be numerous variations within and between each of the structures, functional differences fall into two areas. The first area of functional differences between the various forms of local government structure surrounds the existence of an executive who is responsible for making administrative decisions and the extent of that executive's power. The existence and role of Constitutional or Row Offices is the second area where the forms of local government differ. Constitutional Officers are elected heads of administrative departments within the local bureaucracy. As such, they often are considered part of the local government, however, operate outside the authority of either the elected legislative council or the elected/appointed executive.

Philosophy for Local Government: Dillon Rule Versus Home Rule

Variations in the amount of power a locality is able to exercise over its jurisdiction also are affected by the amount of power the state legislature is willing to confer to local governments. Historically, local governments have acted as an arm of the state legislature, where local ordinances conflicting with state mandates were superseded by the state regulations. This view of local governmental power is referred to as the "Dillon Rule." As a result of the Dillon Rule, many localities have had to petition their state legislatures for more power over local affairs.

The formalization of county efforts to increase their power over issues of local concern has been embodied by the Home Rule Movement. Over forty states have currently adopted some form of home rule for localities in order to afford them more power over local issues and functions. State legislatures do this through two variations or forms of home rule, Imperium in Imperio (State within a State) and Devolution of Powers. These are discussed in detail in Appendix D of the report. The fundamental difference rests with the level of interpretation of issues are considered to be "local" or "municipal" in nature.

Government Structure in the Commonwealth of Virginia and Chesterfield County

The structures and philosophy under which local government operates in Virginia are not unlike those mentioned above. As in many other areas around the nation, current debates about the amount of power localities should be capable of exercising over local issues, and the most effective form of government that will allow this to occur, are ongoing in Chesterfield County.

The Commonwealth of Virginia

The predominant form of local government structure in the Commonwealth of Virginia is that of the Council-Administrator form. Under this structure, the community elects a Board of Supervisors, or council, which is then responsible for appointing an administrator. No counties in Virginia have an elected executive or administrator. Elected constitutional officers are required by state law and cover such positions as sheriff and commissioner of revenue.

There are two counties in the state which have charters, of which Chesterfield is one. Charters and any amendments to them must be approved by the General Assembly. Charters act to formalize the structure and laws of the counties, however, they do not increase the power counties have over local issues such as land use and zoning, environmental concerns and taxing power.

Counties are permitted to consolidate with other nearby counties or cities subject to voter referendum and approval by the General Assembly. Counties may also enter into consolidation agreements with other localities for the provision of public services such as solid waste management, water and education, for example. In addition, counties are permitted to expand the size of the elected representative body.

The Commonwealth of Virginia is a Dillon Rule state, which means that localities are limited in their actions by the General Assembly and state laws. Debate on the reform of the Dillon Rule in Virginia, however, is over 20 years old. Currently, the Virginia General Assembly, in conjunction with experts on local government structures, the Virginia Association of Counties and the League of Women Voters, are studying the subject. At this time, however, the debate remains unresolved.

Chesterfield County

Chesterfield County is one of two chartered counties in the Commonwealth and operates under the Council-Administrator form of government structure. Five individuals sit on the Board of Supervisors, each representing one of the magisterial districts in the County. Supervisors are part-time officials and appoint a full-time administrator who oversees the daily operations of the various County agencies.

The recent high rate of growth in the County has put pressure on the service provision and communication functions of government. In particular, the County government is currently facing issues such as upcoming state budget cuts; differences in the populations of each magisterial district from unequal growth rates and the upcoming redistricting; and state mandates regarding waste disposal and protection of the Chesapeake Bay. These issues and others have contributed to a renewed interest in the County's government structure, and consequently, the provision of services to the population today and in the year 2020.

The Committee on the Future and the Vision Planning Process for Government Structure

Recognizing the need to ensure that the government of Chesterfield County is prepared to face the economic, social, demographic and political changes that are leading the debate on governmental effectiveness at the national and state levels and in other communities around the nation, the Committee on the Future chose government structure as one of the first four topics to examine in the vision planning process. The Committee convened individuals representing various interests regarding government in the County to assist in formulating the vision for government structure in the year 2020.

Discussions, facilitated by the consultants, revolved around the following key topics within government structure:

- representation of all interests in the governmental process;
- broad-based citizen participation in decision-making processes;
- communication on the part of government to the constituency and the constituency to government;
- nurturing and recruiting effective leaders; and

- providing public services that are efficiently delivered and reach all affected segments of the community.

Participation during the discussions was high, reflecting an acknowledgement of the stake all residents have in ensuring that local government works in the most effective, efficient fashion possible. All participants were able to contribute to the shaping of the overall vision of government structure for the year 2020.

Overall Long-Range Strategic Vision for Government Structure

At the start of the discussion of government structure in Chesterfield County, members of the community and the Committee on the Future discussed the purpose of government in the year 2020. The following statements that resulted from the discussion reflect the many roles local government plays and the different views citizens take of local government.

- To provide services and essential collective needs that the citizens cannot provide for themselves.
- To protect the health, safety, welfare and liberties of the public.
- To address and resolve the Madisonian dilemma: protecting the minority from the tyranny of the majority, and vice versa.
- To act as a framework for equal opportunity, in which individuals can realize their fullest productivity.
- To protect individual liberties and rights and, at the same time, the general welfare.
- To facilitate the ordering of society by generating the rules by which we live.
- To be facilitator of resources and ideas.
- To be the body of the citizenry (not separate from it).
- To be a responsive coordinator for citizen involvement.
- To protect property and individuals, and deal with lawbreakers.

- To educate the citizenry in the process of government and governance.
- To be an arbitrator of disagreement.
- To regulate growth and expansion (e.g., zoning).
- To provide a forum for citizens to say what they want government to be and to do.

The Overall Vision

The purpose statements for government structure reflect a two-pronged approach to the leadership role played by local government and may be summarized in the following overall vision:

In the year 2020, the government of Chesterfield County will be responsive to the needs and desires of the citizenry and will provide effective and efficient services that the people need/want.

Contained within the vision are the two distinct aspects of government listed below:

- Government as Representative voice of the people
Listener to/Facilitator of citizen input
- Government as Provider of services

Implications of the Overall Vision

Participants in the Vision 2020 process reflected upon the implications of the overall vision and the means for reaching such a vision. The fact that the vision for government structure is one that takes a two-pronged approach to the role of government reflects the complex nature of the views individual citizens take of local government and its responsibilities. While a great deal of attention focused upon the role of government as a provider of services, participants, through facilitated discussions, expressed the feeling that both views are vital to maintaining the nature and vitality of a community.

Strategies for Major Government Structure Components

After articulating the overall vision for government structure in Chesterfield County, the participants in the Vision 2020 process developed strategies for attaining the vision. At the end of the vision and strategy formulation meetings,

participants rank-ordered their ideas in order to establish a sense of priority among concerns.

In the material which follows, issues concerning government structure and the vision for such in the year 2020 are presented in the form of action strategies. In instances where there were differing viewpoints, both are presented. Following the discussion of the strategies for action, brief case studies are also presented to show how these strategies have been implemented in other areas around the country. More detailed descriptions of many of the case studies are presented in Appendix D.

The discussion of the strategies for attaining the vision for government structure in the year 2020 is organized in the following fashion:

1. Representation/Responsive Government
2. Informed Electorate/Constituent Education
3. Service Provision

Representation/Responsive Government

Within the category of representation/responsive government four sub-topics or groups of strategies developed. The sub-topics are vehicles for citizen input, structure of the elected representative body or political structure, the political process and leadership. Each of these sub-topics deals with the way in which constituents are able to affect/have input into the political decision-making process.

Vehicles for Citizen Input

Within the sub-topic of vehicles for citizen input, three methods for communicating with elected officials were discussed by participants in the vision planning process. These methods, citizen forums, neighborhood councils and the use of interactive technology, are means through which government is kept informed about constituents' views and concerns on key topics and issues.

Citizen Forums. There is a precedent of county supervisors holding public forums. While these are not mandatory, in instances where citizen forums have been used, they are viewed as a positive way of increasing citizen communication to local government leaders.

Subsequent to a discussion on the merits of citizen forums, the following broad strategy was formulated:

- > Existing citizen forums should be continued and expanded in order to better incorporate citizen input in decision-making processes.

In further elaborating upon and refining this strategy, more specific strategies for expanding the role of citizen forums were developed by the participants. These strategies present areas where citizen forums could be expanded upon in order to include a broader range of participation from both individual and business residents in the County.

- Existing citizen forums sponsored by supervisors should continue.
- The forums should be convened at different locations throughout the County to assure broader public input.
- Time horizons for planning and decision-making should be extended so that citizen input can be included in the process.
- A process to secure business input into governmental decision-making should be formalized.

Communications Technology. The use of interactive or communications technology was also discussed as a means for increasing levels of citizen input into the decision-making process. Since many people receive information on current events through television, the use of interactive processes for participation would be a natural progression from existing information sources. Leaders could then quickly assess community views on a particular issue.

The strategies for improving representation through technology are organized according to an overall strategy with two clarifying strategies that reflect different levels of technological sophistication:

- > Communications technology should be used to increase the level of interaction that exists between the public and elected officials.
 - Use technology to conduct electronic polling to encourage interactive communication with the public.
 - Televisе the public forums and include in this process a public "call-in" aspect.

Neighborhood Councils. The use of neighborhood councils hinges upon two key concepts: first, as an extension of the branches of government, council representatives answer to even fewer individuals than do county supervisors; and secondly, acting as an intermediary between the public and the supervisors, the neighborhood council works to decrease the burden placed upon part-time elected officials.

Perceiving neighborhood councils in the above fashion, the following strategy and components were established in the vision process:

- > Create neighborhood councils to encourage broader representation in County government.
 - Neighborhood councils will act to encourage participation and ease the burden on the Supervisors to solicit public input.
 - Neighborhood councils will have flexible membership (be open to all).

Neighborhood councils as set forth in the strategies work to achieve both goals; increased interest and participation, and increased representation. There are many areas around the country that have established such forms of local government support structures. The level of success met by these forms, however, varies.

Case Study: Portland, Oregon. One of the most successful neighborhood council programs in the country is in Portland, Oregon. While a detailed description of the program in Portland is contained in Appendix D, highlights of the program include:

- neighborhood associations covering over 90 percent of the city's area;
- operational independence from the city government; and
- an organizational structure ensuring that certain minimum standards are met. These standards include:
 - Membership open to all.
 - Dues may be collected, but must be on a voluntary basis.
 - Creation of and adherence to formal dissent processes. Dissenting comments must be submitted to the city council along with the neighborhood association's recommendations.

Areas addressed and services provided by these associations include:

- neighborhood crime prevention programs;
- review of and recommendations on city codes and license requirements;
- neighborhood need reports and requests for action;
- budget advisory committees to review the operational efficiency of city agencies and make recommendations pertaining to them;
- emergency assistance during disasters/emergencies; and
- neighborhood-level service delivery.

While Portland's program represents the best of what can be achieved through neighborhood councils or associations, this type of representation has not proven to be as successful in other communities around the country. In other areas, neighborhood associations are accused of being open to only a few active individuals, working to solidify parochial attitudes, or increasing the levels of bureaucracy that exist between constituents and their elected leaders without net benefit.

Political Structure

Strategies developed fell into two groups; the way the Board of Supervisors "looks," and the nature of the County government. Specifically, strategies falling within the first group deal with the size of the Board of Supervisors, the way they are elected and whether they are full or part-time officials. Strategies in the second group pertain to the County as a chartered community, the County as either county or city, and the existence of constitutional officers.

Structure of the Board of Supervisors. Since the Board of Supervisors is currently the closest body of government to the constituency, participants discussed the need to maintain the "personal" feel of a government that represents relatively few people. Growth within the County has increased awareness about the importance of the personal aspect of local government.

Expanding the Board of Supervisors. In the interest of maintaining the personal feel of local government, participants developed the following strategy for expanding the size of the elected body to better represent a larger, more diverse constituency:

- > The size and nature of the Board of Supervisors will change/expand as the needs and requirements of the constituency change/expand, but the nature of the

Board of Supervisors should remain "in character" with the qualities of the County at that time.

The discussion that followed focused upon whether the Board of Supervisors should be expanded to seven or nine members. While there was no agreement on this issue, general feelings within the facilitated sessions favored expansion.

At-Large versus District Election. At-large representatives are often seen as a way to improve the County's ability to speak with one voice on issues. As an elected official responsible to the whole county, participants also examined the potential for at-large representatives to assist supervisors in larger districts.

In order to relieve some of the pressure on supervisors who represent large magisterial districts, and to facilitate the process by which local leaders form policies that represent the County as a whole, the following strategy on at-large representation was developed:

- > At least some of the supervisors should be at-large representatives.

Part-Time versus Full-Time Supervisors. Participants discussed the merits of part-time and full-time representation in light of the perception that growth in the County has forced Supervisors to devote more time to governing than what normally is required of a part-time position. While there was agreement about the need to relieve some of the pressure placed upon part-time elected officials, there was not agreement on the means for doing so.

The first strategy, which received a higher score in the rank ordering process, favors part-time officials with the addition of more administrative support.

- > The job of the supervisors will be a part-time position, with professional administrators running the County on a day-to-day basis.

Here, the argument rests with the idea that local government officials should serve as members of the community rather than as full-time politicians.

The following counter-strategy was proposed by some participants:

- > Serving on the board of supervisors should be a full-time position.

Here, the strategy is based upon the belief that it will become increasingly difficult to attract quality individuals to government service if the position is part-time. Demands of the position are such that supervisors must devote what is equivalent to a full-time job in time to leadership while receiving remuneration that reflects a part-time job. Another view differing from the two strategies above was also set forth, however, it received relatively few points in the rank ordering process.

- > Do not decide about the size, form or staffing of the Board of Supervisors until the next redistricting.

County Structure. The three areas of discussion about the structure of the County government itself resulted in the formulation of two strategy recommendations and an observation about the amount of power the state legislature exercises over the County. The topics covered in this area are the chartered status of the County, the election of constitutional officers and the County as a county or a city.

The first strategy deals with Chesterfield County as a chartered county and states that:

- > Chesterfield County will remain a chartered form of government.

As a chartered county, there is a sense that Chesterfield has a government with a more formal structure. The charter is perceived as a mechanism that would facilitate the operation of government should the state legislature decide to allow counties to exercise more power over their own affairs.

The following strategy concerns the nature of the constitutional officers within County government and advocates changing the constitutional officers' positions from elected ones to appointed ones.

- > Constitutional officers should become administrative professional staff.

The fundamental issue here is the duplication of services. For example, the election of a sheriff is required by the state, however, the County also operates a police department with an administratively appointed chief.

The observation that evolved regarding county versus city status reads:

- > If the Commonwealth of Virginia makes it favorable for the County to become a city, then we will become a city.

The Political Process

The next sub-category of strategies to strengthen the representational role of government in Chesterfield County deals with improving the political process. Two principal areas of concern were expressed by the members of the group: the cost of getting elected and the role played by political parties.

The Cost of Getting Elected. According to the rank ordering process, the cost of getting elected, was the more important of the two political process issues. Fears that the cost of getting elected to the Board of Supervisors worked to keep some individuals from running for office resulted in the following strategy:

- > The cost of getting elected should not be a deterrent to running for office, nor should it cause elected officials to spend less time leading due to a need to spend time fund raising.

Discussion centered around the issues of campaign funding limits, free television time and public funding for political campaigns. Each of these issues were expressed as strategies for action that would work to ensure that leadership positions are open to all and, thus, remain representative of the local constituency.

Political Parties. The second area discussed in the arena of the political process concerns political parties and their role in electing representative leadership. The two strategies below received very little weight within the rank ordering process and conflict with each other to the extent that one advocates increasing the role of the party while the other proposes decreasing the significance of party affiliation.

- > Strengthen the two-party system.
- > Constitutional officers should not have party designations.

Leadership

Two main areas of discussion were covered under the sub-topic of leadership, the training and encouragement of effective leaders and the role played by the private sector in encouraging individuals to run for public office.

Training and Encouragement of Effective Leaders. Participants developed the following broad strategy concerning the training and encouragement of individuals to fill leadership positions:

- > Develop a process where individuals are trained for leadership positions and encouraged to run for public office.

This strategy included the following areas of emphasis:

- Involvement of younger people in the process of government through a kinder, gentler system to nurture young leaders, and the placement of high school and college students on advisory boards and councils.
- Training of people about the political process by convening leadership forums to teach and explain about the nature, scope and costs of leadership.
- Having a government structure that allows leaders to lead.
- Tapping retirees to participate in government.
- Limiting terms of office.

Here, the issue rests with the need to ensure that qualified, effective leaders are the ones who choose to run for public office and that once in office, those individuals have the power and wherewithal to act in the best interest of the County. Participants supporting these strategies felt that effective well-trained leaders were essential to the County's being able to successfully meet the challenges of the future.

Private Sector Role in Encouraging Good Leadership. Since elected officials are part-time employees of the County, they also hold occupational positions in the private sector. Participants felt that while it is advantageous to have these individuals involved in government, employers often create a barrier to their doing so. The strategy advanced states that:

- > The private sector should encourage employees to run for public office.

Here, the issue was one of the need to educate the private sector about the advantages of encouraging employees to become actively involved within the community. Such practices often work to solidify a sense of community between individual residents and local employers. Also, individuals employed within the private sector often have developed the same good leadership skills in the course of their employment that would benefit local government.

Public Awareness

While still relatively low, the percentage of individuals who vote in national elections is much higher than the percentage who choose to vote at the local level. This is in spite of the fact that, proportionally, voters have a greater say in determining the outcome of a local election. Consequently, local government often must make policy decisions without input from the whole community.

As a result, members of the community and the Committee developed strategies concerning the need to educate the electorate to both participate in democratic elections and to make informed decisions.

Educating the Electorate

Participants formulated the following broad strategy for addressing the issue of public awareness and participation:

- > Both local government and the local education system must educate the public about the issues and nature of government so that informed decisions are made.

Incorporated within this strategy were recommendations made by participants on how to best act upon the need for greater understanding of and interest in governmental affairs. Strategies further clarifying this broad strategy fell into two categories; those pertaining to the role of the educational system and those pertaining to the need to educate the public at large.

Clarifying strategies for the educational system that were advanced included the need to:

- Provide meaningful college internships in government.
- Expand the government curriculum in the school system.
- Encourage student involvement in political campaigns.
- Develop real world case studies pertaining to issues and decision-making for distribution to the schools.
- Teach students why they should vote.

Strategies pertaining to the importance of getting the general public more involved in governmental decision-making are expressed as follows:

- Require candidates to debate the issues before the public.
- Educate the public to understand and carefully examine the issues.
- County government must make the issues clear and understandable to the public.
- Use the political appointment process as an educational tool.

Service Provision

The role of government as a provider of services received the most attention from both participants and Committee members.

Traditionally, each government has acted independently to provide services for its constituency. However, as the County population grows, the cost of providing services in the traditional manner is increasing faster than the tax base, making the provision of services to all citizens more difficult. In response to this problem and its implications for the future of the County, meeting participants discussed at length two potential areas where solutions may be found: (1) regional agreements, and (2) privatization.

Regional Consolidation Agreements

Regional consolidation agreements refer to a situation where two or more autonomous jurisdictions agree to work together to provide public services to citizens in both communities. Often, services can be provided more efficiently (at a lower cost) to a larger group of individuals. In other words, the marginal cost of providing services to an individual is lower in an area where the total number of individuals being served is greater.

There are existing regional mechanisms for the provision of certain services in the metropolitan area. Chesterfield County is party to many of these. The discussions of regional consolidation of services did not ignore that fact that such mechanisms exist, rather, participants expressed interest in seeing more mechanisms be put in place on a regional level.

The strategy pertaining to regional consolidation for the provision of services and its component action recommendations received the highest score in the rank ordering process of any strategy pertaining to government structure. The strategy, simply stated, reads:

- > Create regional mechanisms for the provision of services.

Participants suggested the following areas as ones where regional consolidation should occur or should be expanded:

- Affordable/low-income housing
- Transportation
 - Air Authority
 - Port Authority
 - Mass Transit
- Sewer/Water Authority
- Economic development
- Educational services
- Public safety
 - Building codes
- Parks and recreation
- Social Services

In order to ensure that the potentially large benefits from regional consolidation are realized, the following structural recommendations are offered:

- Expand regional agreements on a formal footing.
- Leverage existing regional agreements to create more agreements and expand the existing ones in a substantive fashion.
- Improve the regional institutions that govern the agreements.
- Expand the coverage and work towards uniformity of coverage for all agreements.
- Establish mechanisms within the agreements to ensure adherence.

Participants also made recommendations for further encouraging regional agreements, particularly through funding.

- Use financial incentives from the state to induce local involvement for regional service areas.
- Provide revenue for regional services on a cost-for-service basis.
- Create a mechanism for regional taxing power.

Action statements pertaining to funding aspects of regional consolidation reflect an understanding that financial resources

are a means for encouraging more regional consolidation as well as ensuring better adherence to consolidation agreements. Also, through funding mechanisms, localities are encouraged and thus, more likely to adopt regional perspectives on certain issues.

Privatization

Another means for relieving the financial burden placed upon local government in the service provision arena is privatization. Under privatization, localities enter into contractual agreements with a private enterprise to provide a given service to the community. The government will often impose certain restrictions upon the provider to ensure that harms such as exclusion of access or monopoly prices do not result from the agreement.

Privatization did not receive the rank ordering endorsement received by regional consolidation, however, there was a lengthy discussion resulting in a key strategy for action as well as sub-strategies or more specific actions. The broad strategy is as follows:

- > Privatize existing and new services where it is more cost effective and efficient to do so; incorporate public/private partnerships for the provision of services where appropriate.

Sub-strategies or actions for maintaining accountability and quality in which services have been privatized include:

- Establish qualitative and quantitative measurements of accountability for services provided by private vendors by:
 - monitoring quality;
 - establishing regulation and evaluation criteria for private or public/ private services at the time when the contracts are established;
 - awarding privatized services through an open procurement process with regular review of contracts; and
 - independently auditing the County government to see if it is getting its money's worth.

Since government operates to serve all constituents and in the private sector, motivations rest with an interest in maximizing profits from a given business venture, the strategies above

acknowledge the need to regulate privatized services and the businesses providing those services.

SECTION VII

IMPLICATIONS OF NO ACTION

Chesterfield County, as noted earlier in Section II, has grown very rapidly from a predominantly rural county to a suburban community over the past two decades. The County's population nearly doubled during the 1970s to just over 141,300 in 1980, and then increased by nearly 68,000 persons or by 48 percent to over 209,200 in 1990.

Today, Chesterfield County represents a lifestyle and living environment which most County residents appreciate; there is a level of satisfaction in the way things are. There are those in the County who think that the County is not close enough to a crisis stage to require any ameliorative actions.

On the other hand, there is a growing realization among a segment of Chesterfield County residents (and this was very evident in the group sessions conducted as part of the visions process) that if appropriate actions are not taken soon, then the County is potentially headed for a major set of problems. The unrestricted, rapid growth over the past two decades has put substantial pressures on the County's land mass and its ability to properly service residents at reasonable cost. The County's fiscal health today is not as strong as it was just five years ago; the County's fiscal resources and its fiscal capacity are severely strained, and indications are that continued rapid growth will call for substantially larger outlays of public funds than in the past. This section of the report examines the scale of anticipated future growth (assuming continuation of past trends) and its implications for Chesterfield County's ability to realize the various visions that have been articulated for education, natural environment, transportation and government structure.

Scale of Anticipated Growth

According to the Chesterfield County Planning Department analysis, if growth trends and patterns of settlement observed in the past continue at the same pace in the future, the County could expect to double its population over the next 30 years (between 1990 and the year 2020). This would mean a population of over 417,000 persons in the year 2020, an increase of about 208,000 persons over the 1990 population level of 209,200 persons.

Even if the rate of future growth moderates somewhat, the County, as shown in Table 6 below, can still expect to add over 145,000 people to its population base of 209,200, reaching a population level of over 354,500 by the year 2020. To accommodate 145,000

new residents would require an addition of 102,300 new dwelling units to the County's estimated current housing stock of 80,535 units. By 2020, the County's housing stock would contain over 182,800 units. Chesterfield's employment base over the next 30 years is projected to nearly double, growing by 69,200 jobs from a base of 70,600 in 1989 to 139,800 jobs by the year 2020.

Table 6.
Population, Employment, and Dwelling
Unit Projections for Chesterfield County,
Based on Moderate Growth Assumptions 1990-2020

	<u>Population</u>	<u>Employment</u>	<u>Dwelling Units</u>
1990	209,274	70,600 1/	80,535
2005	304,051	102,183	133,816
2020	354,535	139,800	182,847
Change, 1990-2005			
Number	94,777	31,583	53,281
Percent	45.3%	44.7%	66.2%
Change, 2005-2020			
Number	50,484	37,617	49,031
Percent	16.6%	36.8%	36.6%
Change, 1990-2020			
Number	145,261	69,200	102,312
Percent	69.4%	98.0%	127.0%

1/ Employment as of 1989.

Source: U.S. Census of Population; Virginia Employment Security Commission; and 1988-2020 Development Projections prepared by the Chesterfield County Planning Department, June 1988.

As shown in Table 6 above, Chesterfield County is projected to grow by nearly 95,000 people, 31,600 jobs and over 53,200 dwelling units over the next 15 years (between 1990 and 2005). Over the subsequent 15-year period (between 2005 and 2020), County population growth is projected to slow considerably, growing by nearly 50,500 persons, while the employment base is expected to expand by over 37,600 jobs. The addition of 49,000 new dwelling units during the 2005-2020 period reflects a considerable drop in the size of the average County household.

Projected Age Composition. Table 7 below shows the projected age composition of the County population.

Table 7.
Projected Age Composition of
the Population, Chesterfield County, Virginia,
1990-2020 (based on Moderate Growth Assumptions)

<u>Age Group</u>	<u>Number of Persons</u>			<u>Percent Distribution</u>		
	<u>1990</u>	<u>2005</u>	<u>2020</u>	<u>1990</u>	<u>2005</u>	<u>2020</u>
Under 5 years	17,094	20,983	24,668	8.2%	6.9%	7.0%
5-19 years	52,530	68,074	68,763	25.1%	22.4%	19.4%
20-64 years	127,260	189,207	194,422	60.8%	62.2%	54.8%
65 years and older	12,390	25,787	66,682	5.9%	8.5%	18.8%
Total	209,274	304,051	354,535	100.0%	100.0%	100.0%

Source: Table 5; and 1988-2020 Development Projections prepared by the Chesterfield County Planning Department, June 1988.

As shown in Table 7, population is expected to consistently increase in all age groups over the next three decades. However, the percentage of school-aged children will start to decline, reflecting lower birth rates and the general aging of the population. The proportion of total population over 65 years of age will more than triple during the 1990-2020 period.

- The number of school-age children (between five and 19 years of age) is projected to increase by more than 15,500 between 1990 and 2005. During the subsequent 15-year period to 2020, the school-age population is projected to stabilize dramatically, growing by only 700 persons to 68,763.
- The number of elderly people (65 years of age and older) is projected to grow rapidly, from 12,390 persons in 1990 to over 66,600 by the year 2020-- an increase of nearly 54,300 elderly persons during the period.

Projected Land Consumption. If Chesterfield County continues to develop at relatively low densities as it has in the past, over 82,550 acres will be needed to accommodate the population and employment base that is projected for the County over the next 30 years. Table 8 shows the anticipated land consumption by various land uses, based on past development characteristics and patterns in Chesterfield.

Table 8.
Land Consumption Projections in Acres,
based on Past Development Patterns/Moderate
Growth Assumptions, Chesterfield County, 1990-2020

	<u>Residential</u>	<u>Ind./ Comm. & Misc.</u>	<u>Public/ Semi- Public</u>	<u>Total Devlpmt.1/</u>	<u>Vacant Land</u>	<u>Total Area</u>
1990	47,491	20,374	14,761	85,130	200,572	285,702
2005	77,246	31,646	18,066	129,464	156,238	285,702
2020	103,195	42,134	19,852	167,686	118,016	285,702
Change, 1990-2005						
Acres	29,755	11,272	3,305	44,334	-44,334	--
Percent	62.6%	55.3%	22.4%	52.1%	-22.1%	--
Change, 2005-2020						
Acres	25,949	10,488	1,786	38,222	-38,222	--
Percent	33.6%	33.1%	9.9%	29.5%	-24.5%	--
Change, 1990-2020						
Acres	55,704	21,760	5,091	82,556	-82,556	--
Percent	117.3%	106.8%	34.5%	97.0%	-41.2%	--

1/ Development land acreages do not add to total; historical data shows a gap of 2,505 acres, which are unaccounted for.

Source: 1988-2020 Development Projections prepared by the
Chesterfield County Planning Department, June, 1988.

As shown in Table 8 above:

- In 1990, 200,572 acres, or 70.0 percent of the County's 285,702 total acres, were vacant. By the year 2020, 118,000 acres, or 41.0 percent of the County's total land area, will remain vacant.
- Residential land use will consume the greatest amount of vacant land, occupying an additional 55,700 acres by 2020, most of which will be in single-family unit subdivisions.
- Industrial, commercial and miscellaneous land uses such as rights-of-way, utility easements, transportation terminals, and communications will consume an additional 21,760 acres by 2020.
- Public and semi-public uses--dedicated open space, park lands and other recreational uses--will consume an addition 5,091 acres.
- By 2020, 103,195 acres will be under residential uses; 42,134 acres under industrial, commercial and miscellaneous uses; and 19,852 acres under public and semi-public

dedicated open space, park land and other recreational uses.

- The amount of developed land will grow from 85,130 acres in 1990 to nearly 167,700 acres, or 59.0 percent of total County land area, by 2020.
- Calculated population density per acre of total developed land will decline from 2.45 persons in 1990 to 2.11 persons by 2020.
- Dwelling unit density per residentially-developed acre will increase slightly, from 1.70 units in 1990 to 1.77 units by 2020, reflecting a relative increase in the number of multi-family units in the future.

Implications of Growth

The indicated growth of Chesterfield County's economy and population poses significant challenges for appropriate public policy responses and actions. As noted before, the County today is confronted with the impacts of the rapid growth of the past. Perhaps the greatest impact of past growth has been on the County's ability to adequately service its expanding population; the delivery of public infrastructure facilities has not kept pace with the rate at which the County has grown. For the past few years, the County has been playing a "catch-up" game with respect to the provision of infrastructure facilities with limited success.

The indications are that continued growth of Chesterfield County will call for a substantially larger outlay of public funds than in the past. New residential development and business enterprises will generate new private investments and tax-paying capacities, but they will also require a substantial expansion in public services and public works. Some public investments will be necessary to stimulate the private investments themselves and to maintain a balance between commercial/industrial and residential contributions. Other public investments will be necessary to accommodate the anticipated new growth. Streets, highways, sewers, solid waste disposal sites, libraries, parks, police and fire stations--the entire range of physical improvements provided with public funds--are and will continue to be under pressure to expand.

The lack of adequate revenues to provide the range and quality of public services that its growing population and economy will demand is, therefore, Chesterfield County's major financial problem. With respect to the overall availability of public revenues, there are two basic sources in any area--revenues generated from the local system of taxes, charges and impact

fees; and the funds made available to the County from state and federal sources. Chesterfield's tax system relies overwhelmingly on the property tax; indeed, there is no other major source of locally-generated revenue at the present time. Although the County does benefit from state and federal funds for specified purposes, the inflow is not substantial and is actually declining compared to total local needs.

According to leading bond rating agencies, Chesterfield County has double the per capita debt of comparable communities nationally. The County has reached the limit of its ability to finance construction of new capital facilities with general obligation or other tax-supported debt, and is limited in incurring additional debt through local bonds without affecting its current high ratings. In summary, the County is currently unable to meet the infrastructure requirements of its existing population, much less meeting the needs of its future population and economy. In addition, in order to attain the visions for the year 2020 as established through the planning process, additional public funds will be required.

Implications for Education. The public education system in the County is already under severe growth pressure, and will be further impacted. Chesterfield County Public Schools have identified capital improvement needs between now and the start of the 1996-97 school year of approximately \$153.9 million (based on 1991 dollars). These needed facilities are in addition to those approved in the 1988 bond referendum, and include seven elementary schools, one middle school and one high school as well as improvements to existing schools.

Present projections indicate that approximately \$50 million, not including funds from the 1988 bond referendum, would be available for new school construction projects during fiscal years 1995 and 1996. Passage of a second referendum would be required.

While a substantial shortfall in funding for educational facilities is evident, a recent study on school overcrowding may assist in suggesting alternatives to new facility construction and positively impact this anticipated shortfall.

In order to realize visions for education, additional funds will be needed for new teachers with different skills, new computers and other teaching/technology aids, libraries, books, new and better communications equipment, new and better-equipped laboratories, and a host of other facilities, equipment and programs. Unless appropriate actions are taken to assure public support and needed funds, visions for education, as established, would be difficult to realize.

Implications for the Natural Environment. Continued growth, if allowed to occur in an unplanned manner will result in urban sprawl, having a very deleterious effect on the County's natural environment and its quality of life. First, the incremental public costs associated with servicing low density, sprawled development patterns would be significant, further exacerbating the County's limited fiscal capacity. Second, low density development patterns are likely to reduce, rapidly, the inventory of open space. Third, rapid, unplanned growth is likely to generate new demands for solid waste disposal sites and negatively impact the County's water resources and other natural environmental amenities. Unless good planning practices and indicated regional approaches to managing and maintaining the County's natural environment are put in place, the 2020 visions for Chesterfield's natural environment may not be fully realized. Again, implementation of actions suggested for the preservation of the natural environment will place special demands on the County's fiscal resources in terms of added manpower, research and monitoring systems, and in other ways which must be met.

Implications for Transportation. Roads and highways have traditionally been funded by the state and federal government, with local contributions amounting to a minor share of total project costs. Chesterfield County, unlike most other jurisdictions in the state, has been proactive in the development of roads and highways. As an example, the County funded construction of the Powhite Parkway and Route 288 extensions, which involved a local commitment of \$52 million.

The visions for transportation require land banking of rights-of-way now, in order for the County to maintain its current status as a leader in transportation services. However, the County's ability to land-bank today is constrained by the current tight fiscal conditions. If appropriate actions are not taken now, the County runs the risk of losing its leadership position in this area.

Implications for Government Structure. The vast majority of public services are currently provided to residents by the County. New state regulations (such as those governing solid waste disposal sites) and the visions established in the process for the other three topic areas require enhanced services and, thus, increased spending to provide those services. Without assistance through cooperation with other nearby localities or the private sector, County residents face, at best, lesser quality services or higher tax rates in order to be able financially to meet state regulations.

At the same time that critical decisions are being made, population growth in many magisterial districts will make it almost impossible for elected representatives to weigh the

concerns of all affected citizens. Population growth will leave each of the five representatives with large constituencies to whom they must be responsible. For example, the 1990 population averages over 40,000 people per district. As such, the current government structure may not be able to provide representation and responsiveness to its constituent body equitably and effectively. The added population will also strain public administrative capacity in much the same fashion.

In summary, it is clear from the findings of the vision planning process that if Chesterfield County citizens want their community to remain viable, attractive and livable, then the question of no action has little room for discussion at this stage of the County's development cycle.

APPENDIX A
EDUCATION CASE STUDIES

EDUCATION CASE STUDIES

Restructuring

Many recent changes in the educational system have revolved around the concept of restructuring, or a revision in the way schools organize the work of students, teachers and administrators to better meet the demands placed upon the educational system. Aspects of restructuring include fundamental changes in certain key areas of the educational process: curriculum and instruction, authority and decision-making power, the roles played by staff, and accountability systems. Underlying each of these topic areas is the basic concept that by changing the way it is performed or organized, the educational process becomes more productive and is better able to teach students both basic skills and higher-order thinking and analytical skills. Since the concept of restructuring was first embraced by the National Governor's Association in 1988, numerous school systems around the country have chosen various aspects of restructuring to improve their ability to meet the mandate of all schools in the nation; to prepare all individuals to become, to the best of their ability, productive, successful members of society. Examples of restructuring programs and the level of success attained in certain school systems throughout the nation include:

Chicago Public Schools; Chicago, Illinois

School officials in Chicago have implemented what is likely the most comprehensive and drastic restructuring program in the nation. The City Board of Education has been blamed for many of the problems with the school system, particularly the high incidence of teacher strikes. As a result, a new program focusing upon the input of parents and teachers in school management decisions by reducing the amount of power and input afforded to the school board has been put in place. Aspects of the program, which has met with mixed results, include the following.

- Councils were elected by the parents and teachers in each school to handle the day-to-day operational, staffing and budget decisions for that school.
- Membership on the councils consists of eleven parents, who then received guidance from school officials on what is involved in school operations.
- The school council has the power to make all hiring and firing decisions in the school, including the power to remove the principal.

Thus far, the Chicago experience has met with mixed results at best. Critics charge that parents were not adequately prepared to handle all of the administrative functions of operating the school. Many schools actually experienced more turmoil rather than less, particularly in cases where principals and large portions of the teaching staff were fired by the school council. Other critics charge that even parents involved in the council process do not always choose to become involved for reasons that are in the best interest of the school. Rather, many parents, it has been alleged, arrived at their council seat with their own personal agendas firmly embedded. Chicago is currently in the process of re-evaluating their restructuring program after less than a year of its being in effect. Additionally, it is important to note that a state court has ruled the program to be unconstitutional due to the way in which local school boards are selected. The selection process is also under current review and revision. (See: Results in Education: The Governor's 1991 Report on Education; Restructuring in Progress: Lessons from Pioneering Districts; and Governing, "The Most Radical Idea in Education: Let the Schools Run It.")

Poway Unified School District; Poway, California

Poway, California is an example of a more restrained and successful restructuring effort. The Poway Unified School District is located northeast of San Diego and consists of roughly 20,000 students. The predominately upper-middle-class population has assisted the superintendent in easily implementing programs that focus upon decentralization of the system and professionalization of the school staff. These policies have resulted in a high level of pride in the school system among both general citizens and school staff, as well as numerous honors and awards for the system on the national and state level.

- **School-Based Management:**

Each school is given its total operating budget in a lump sum for the year. This money includes funds for both staffing and supplies. The school administration and staff are then responsible for making all allocational decisions that concern the purchase of materials and supplies, and to a certain degree, staffing. Staffing levels are guided primarily by union contracts, however, each school has at least some mobility for making staffing decisions. Such decisions generally involve choices between hiring an extra full-time teacher, several aides or perhaps part-time specialists in certain areas. Teachers are encouraged and at times required to participate in these decisions. The school district has been able to realize savings resulting from the fact that the

central school district staff can now be kept at a minimum level.

- Increasing Professionalism and Staff Development:

Numerous staff development programs are made available to teachers, and while they are not required to attend, they normally do since they are expected to as professionals. To further enhance the professional image of these programs, they are of a high quality and are often held in country club-type settings, including either dinner or lunch. Typically, programs cover such areas as clinical teaching, cooperative learning, and hands-on math and science. Teachers also are encouraged to participate in district level planning and decision making since the central administration staff is reduced.

While Poway is a good example of school restructuring that has been, for the most part, popular and successful, restructuring has not occurred and does not continue to occur without problems. Many of these stem from tensions between the local teachers' union and the school administration. Poway's system of restructuring lacks any type of conflict resolution between the two bodies and many changes have been stalled or stopped by union objections. The most notable examples involved changes in staffing levels at the schools. Others charge that tensions between the school district and the teachers' union are more a function of the predominately anti-union position of local residents. (See: Results in Education: The Governor's 1991 Report on Education; Restructuring in Progress: Lessons from Pioneering Districts)

Dade County Public Schools; Dade County, Florida

Dade County, which encompasses the Miami area, is a large urban district with over 275 schools. Thirty-three of these schools originally were selected to act as pilots for a comprehensive school-based management program that is not altogether unlike the one implemented in the California example cited above. In order to accomplish the mandates of Dade County's school-based management program, a strong, positive working relationship between the school system's administration and the teachers' union has been formed. This relationship rests upon the premise that students require effective teachers in order to learn and that teachers require a positive working environment in order to be effective. The results have led to a higher degree of job satisfaction for teachers and administrators, further enhancing their effectiveness in the school. Today, over 100 of Dade County's 275 schools participate in this program.

The differences between Dade County's school-based management program and the one implemented in Poway include:

- Each school has power to make decisions regarding over 90 percent of its operating budget, including the ability to make all staffing decisions as well as setting up the governing structure in the school itself. Whenever central administration or union rules act as a hindrance to the school's ability to make the decisions autonomously, the school has the option of asking for an exemption to such rules, contingent upon the approval of the exemption by a joint council. The councils are made up of both administration and union representatives.

In addition to these changes, the Dade County School System has also implemented numerous professional development programs including:

- Satellite learning centers in schools for teachers and Saturday morning classes at schools around the district.
- Mini-sabbatical programs with seminars, clinics and research for teachers, and a grant proposal program to fund educational issues forums planned by school faculties.
- A professional leave bank that allows teachers to attend meetings and conferences without being penalized for doing so.
- A pilot peer intervention program to assist other teachers.

(See: Results in Education: The Governor's 1991 Report on Education; Restructuring in Progress: Lessons from Pioneering Districts)

New Approaches to the Educational System

As schools restructure and as more attention is given to the entire educational system in America, teaching methods and traditional attitudes towards learning have come under scrutiny in much the same way as the traditional school administrative structure has. Educators are now beginning to understand that in order to be truly effective, a teacher must also be satisfied with his/her role as an educator. In addition to the need to pay more attention to the professional development of teachers, many school systems are also beginning to acknowledge that all students do not learn in the same fashion and that a certain amount of flexibility in the classroom or school structure may aid students in the learning process. Such thought represents a significant shift from the thought that a rigid daily structure with distinct, universal ways of measuring students is the best way to foster a positive learning environment. Schools are now learning that flexibility and creativity do not have to jeopardize school discipline, and

consequently, many schools are experimenting with changes in the educational structure or in the way in which material is taught. Some interesting examples include programs that have been implemented in Louisville, Kentucky and Winchester, New Hampshire. (See: Results in Education: The Governor's 1991 Report on Education; Restructuring in Progress: Lessons from Pioneering Districts; Governing, "The Most Radical Idea in Education: Let the Schools Run It;" What Works: Research About Teaching and Learning; The New York Times, "Kentucky Begins Drive to Revitalize Its Schools;")

Jefferson County Public Schools; Louisville, KY

Jefferson County may well provide one of the best examples of both restructuring and efforts to take a more holistic view of education in an effort to reach all students. A system that traditionally has been known for a relative lack of success in the educational arena, prior to restructuring, Jefferson County Public Schools were in a constant state of turmoil. In 1989, under the auspices of the JCPS/Gheens Professional Development Academy, a broad-reaching professional development and restructuring program was initiated as a joint effort between the school district and the Gheens Foundation. The academy serves essentially two broad roles: to act as a professional development resource for teachers, administrators and staff; and to act as the center for the County's restructuring efforts.

At the academy, school officials are able to access and learn about new curriculum techniques, exchange ideas among themselves and learn risk-taking skills. The result is that teachers and administrators are more willing to experiment with unconventional teaching methods and decision-making structures in the classroom and in the school as a whole. Specific programs implemented in schools in the district include the following:

- School Improvement Plans:

School staff have become more involved in defining and developing criteria for measuring success within the school. Each school in the district develops its own school improvement plan that identifies areas of weakness and methods for self-evaluation. Teachers and administrators are learning about ways to assess classroom practice and in some instances are using clinical supervision to further that assessment.

- Reorganization of Middle Schools:

Middle schools are organized into "mini-schools", whereby roughly 150 students within the school are grouped together and led by a team of five teachers. Each team is responsible for making decisions about

teaching methods, curriculum, scheduling and materials. Teachers have more flexibility to experiment with new concepts in teaching and are more visible and accessible to students. Each group varies according to the approach taken by the team of teachers, and students who do not work well within one team are able to move to another. The result is that teaching professionals have a higher degree of job satisfaction due to the fact that they are afforded more responsibility and allowed to be more creative in the learning process. Students no longer feel isolated from the teaching staff since there is now an identifiable group of teachers to whom they are accountable and with whom they may share problems and concerns.

- Multi-Age Grouping:

Two elementary schools are experimenting with a type of multi-age grouping. One teacher remains with a group of students in the first through third grades for several years. Students are not grouped according to grade level during these first three years of school. Rather, younger students learn from older ones and teachers focus upon making sure that all students master the basic skills necessary to continue on to higher grade levels. Ability grouping occurs in each subject area so that students who have difficulty in one area are not hampered in others where they do not have problems simply because the teacher must appeal to the lowest common denominator. The basic reasoning behind this concept is that students who fail to master certain basic skills during the first three years of school are less likely to completely master them later on and are more likely to drop out of school. At such an early age, all students have the ability to learn with the difference among students at this age being the speed at which they are able to grasp the basic concepts. By not labeling a student as either a slow or exceptional learner at an early age, and by concentrating on the fact that basic skills are mastered, all students are better off and better equipped to enter higher grades with both the basic skills and self-esteem necessary to complete the educational process in a satisfactory fashion.

- Guidance for Student Teachers:

The academy has worked with the University of Louisville to create specific job descriptions for student teachers. The job descriptions enumerate the role to be performed and responsibilities to be fulfilled by the student teacher. As a result, both the student teacher and the supervising teacher have a better

sense of what is supposed to be accomplished during the process and are thus, better able to benefit from the experience.

Thayer High School; Winchester, New Hampshire

Thayer High School is a member of an organization formed in 1984 called the Coalition of Essential Schools. An essential school operates in a somewhat similar fashion to school-based management programs in that teachers are afforded more of the decision-making responsibility. Unlike school-based management, however, the decisions for which teachers are responsible are solely curricular in nature. In an essential school, teachers make the decisions regarding daily time allocations for various subjects, curriculum and methods. The primary focus rests with first a mastery of "essential" or basic skills. These skills form the foundation from which students are then able to learn to act and think independently, creatively and critically. The main role played by the teacher is that of a mentor rather than a disseminator of information. Key aspects of the program include:

- Teachers work in teams according to grade level or the group of students for whom they are responsible.
- Each team is given one large block of time, and teachers are then responsible for dividing that block according to the needs of the material being taught in a particular subject area. As a result, lessons that require a large block of time, such as a science experiment, are not interrupted by the "school bell." Teachers are afforded as much time as necessary to complete complex, time-consuming lessons where continuity is important. Conversely, basic drills are given a short amount of time rather than being extended to the point of boring students in order to fill the 45 minutes allocated to a subject area each day.
- Classes are kept small so that teachers may be available to students both in and out of the classroom.
- Teachers serve to act as a guide or coach for students rather than disseminating information. The teacher is responsible for making sure that students act independently and that their intellectual curiosity is both stimulated and challenged. Instead of answering a student's questions, the role of a teacher in an essential school is to help the student discover the answer on his/her own.

- Curricular emphasis focuses upon basic skills and subjects, with electives purposely kept to a minimum within the regular school day.

Attracting and Keeping the Best Teachers in the Profession

Another frequent criticism raised in the quality of education debate is that our nation has failed to attract quality individuals to the teaching profession. Complaining of being overworked and underpaid, many of America's best teachers have chosen to pursue career paths outside of public education. While salary is most often cited as the cause for this decision, surveys and starting teacher salary increases in recent years tend to dispute this fact. More frequently, teachers are citing a lack of respect or a lack of being treated as a professional as main reasons for leaving the field. This condition has led many school districts to implement a variety of creative programs to attract and keep some of our best college graduates in the teaching profession. In addition to the various methods for raising the professional stature of teachers discussed in the context of restructuring schools and changing educational approaches, other programs include:

- Teaching Fellows:

The state of North Carolina has created a program to encourage top high school graduates to pursue degrees in education. Top high school graduates are offered free tuition at state universities in exchange for their agreeing to major in education and to teach in North Carolina for a minimum of five years upon their graduation from college. While this program will not truly be tested until after 1991 when the first class graduates, it is hoped that more of the nation's best high school graduates will become teachers and will then stay in the profession.

- Cooperation Between Universities and School Systems:

Michigan State University is working with local school systems to improve the effectiveness of its education department. Professors at the university teach in primary and secondary school classrooms while being observed by college students. College students are then able to gain first-hand experience of the practical application of the principles they have been taught in the classroom. Professors are able to keep up with new teaching techniques and maintain their effectiveness in the classroom.

- Alternative Routes for Certification:

Many school systems are experimenting with alternative routes for teacher certification in order to

attract quality graduates and individuals contemplating a mid-life career change. These programs include such things as offering associates degrees in education for individuals who already have a bachelor's degree in the arts or sciences, financial incentives for teachers who pursue a graduate level degree in the teaching profession, and accreditation standards for participating universities and colleges on a national, rather than state, level.

- Assistance and Guidance for New Teachers:

Toledo, Ohio has implemented an intern program for new teachers whereby they are monitored and evaluated closely during their first year in the classroom. New teachers receive feedback on technique from more experienced teachers. At the end of their first year, new teachers must be approved by a review board in order to have their contract extended. Other systems are experimenting with mentor systems where first year teachers are paired with more experienced teachers in order to gain increased guidance and assistance. Trial periods of varying durations which are similar to those used in Toledo are being experimented with in other districts as well.

- Minority Recruitment in the Teaching Profession:
New Mexico has recently implemented a teacher recruitment program that targets prospective teachers who are representative of the state's population. New York is working on a joint registration program for two- and four-year colleges. Minority students who start their education degrees at two-year colleges may now complete them at a participating four-year institution and thus be recommended for state certification.

- Removing Teacher Mobility Constraints:

Rhode Island recently enacted legislation that allows public educational institution employees to transfer their pensions to other states that are enrolled in an interstate compact. By doing so, the obstacles that may prevent a teacher or administrator from going to another school district located outside the state are removed.

(See: Results in Education: The Governor's 1991 Report on Education)

Forming New Partnerships

Many schools are finding that in order to meet the needs of students and the community as a whole they must look outside of

the realm of the classroom for answers to modern problems. As employers become more vocal in their criticisms of the skill level of the high school and college graduates they have to choose from, many schools are taking a long look at their ability to meet the needs of today's workplace. In order to meet those needs, schools are turning to the business community for assistance, both in deciding what skills to target and in exposing students to real life situations, technology and problem-solving techniques.

In many areas around the country, local business leaders have helped schools fund the purchase of computer and laboratory equipment in an effort to expose children to the tools of modern business communication at an earlier age. In other areas, schools have actually turned to their local business community for aid in making sure that the skills they are teaching are the skills that are necessary to compete successfully in today's workplace. Finally, in other communities, business leaders have been able to provide both much-needed training and an interesting, out-of-the-classroom setting for students who are considered to be "at risk" of becoming drop outs. Specific examples of such programs include:

- Milwaukee, Wisconsin:

Harley-Davidson, a major local employer, has entered into a program with the local school system where students are assigned a mentor from the company. The mentor acts as a person with whom the student works and learns about technology and decision-making skills in a real world environment. Students spend two hours at the job site. One hour is devoted to working on job related tasks, while the other hour is devoted to traditional classroom studies guided by the student's mentor. At the end of the appointed two-hour period, the student returns to the classroom setting for the remainder of the day.

- General Electric:

General Electric is the sponsor of a program where business leaders are actually given time off from their jobs to teach classes in the local schools. The business leaders primarily perform the task of getting students excited about certain key subjects, particularly science, by presenting material and applications of such in a real life context.

- Teacher/Business Exchanges:

Other communities have implemented programs where teachers and business leaders actually trade places for several weeks or months in order for both to gain a better perspective on what is expected of them and

the difficulties involved in such. Business leaders are responsible for performing the classroom duties for the teacher and as a result will be able to target and present certain key areas of importance in such a way that a traditional approach may not be able to successfully accomplish. Teachers have an opportunity to gain a better sense of the skills that are necessary in order to function successfully in the workplace and will thus be able to return to the classroom with a better sense of the types of skills and material that should be stressed in the classroom.

- Partnerships with Other Organizations and Institutions:

Many of the examples cited above could not have occurred without the assistance of public and private organizations. School systems more frequently are turning to a variety of organizations for technical or logistical research assistance and in some cases, financial assistance. The Gheens Foundation's support of the Louisville school system is a good example of a foundation providing both technical and financial support without which many of the advances made might not have been possible. Restructuring efforts begun in New Orleans, Louisiana were the result of the work of an outside advocacy group. Many primary and secondary schools have also been working with nearby universities to better prepare prospective teachers as well as to keep currently practicing teachers abreast of new research and development in education.

(See: Results in Education: The Governor's 1991 Report on Education; Educating America: State Strategies for Achieving the National Education Goals)

Developing New Methods for Evaluating Students

Traditional methods for evaluating the success of our nation's educational system have also received increased criticism from educational experts. From charges that standardized tests are culturally biased in favor of certain segments of the population, to questions about the standardized testing system's ability to truly measure the success of the educational process and a student's higher-order thinking skills rather than merely a base knowledge of facts, standardized testing increasingly is cited as an ineffective method for evaluating students and the educational system.

The problems with standardized testing as an evaluation tool rest upon several premises. The first of these calls into question whether or not such methods succeed in being able to

accurately measure what a child is truly learning and is capable of learning versus what a child has memorized for the test. Because of the nature of such tests, they generally are not able to measure a child's analytical and written and oral communication skills. Many educators charge that such tests do not provide adequate insight into what works and does not work in the classroom and thus do not fulfill a positive role in the educational process for either students or teachers.

Finally, as frustration with such testing has grown, many critics have complained that teachers are forced to devote valuable class time to teaching students how to take and do well on a standardized test rather than spending time on things that contribute to the educational process. Pressure is often placed upon school systems and teachers to ensure that their students perform well on such tests as they are the only base upon which evaluations may be made among school systems or teachers. Since such forms of testing are not generally perceived to contribute to the learning process, many perceive time devoted to testing and preparation for testing as a waste of what is already a limited amount of productive classroom time. As frustration with the standard methods for evaluating students and a student's potential increases, a few school systems are beginning to look at alternative methods for evaluating students and their success in the classroom.

The State of California has been the most progressive in experimenting with alternative testing methods and provides the best case study for the success of such. Selected schools in California are now experimenting with new methods for testing students in the hope that they will both provide a more accurate picture of a student's ability to think and act independently as well as to communicate in an effective fashion. These tests are designed to provide a lesson for students so that by taking a test, the student is also learning a new lesson in the subject matter being tested. Tests being used in the California experiment generally include the following:

- Proficiency in science is tested by having students perform laboratory experiments that teach new principles as well as test other principles that should already be mastered. Students are then evaluated upon results, their actions in the lab while being observed by test givers, and a written lab report presenting the experimental process and findings.
- In the social sciences, students are given a topic on which they are expected to take a position and conduct outside research. Small groups of students are then gathered to discuss their findings and debate various positions. Teachers sit outside of the group and evaluate the quality of each student's participation in the discussion. The final stage of this test involves a written reaction paper that each

student must complete after the small group discussion. The idea behind this type of testing is that students are evaluated on their written and oral communication skills as well as their ability to reason and think analytically. Also, these types of testing are often more interesting for students and contribute to the overall educational process in a positive fashion.

While these examples provide ones that achieve the ultimate goals of testing in that they are both supportive of the educational process and provide models for good instruction, they remain relatively new and have not had sufficient time to prove themselves as effective forms of testing students. In addition, these types of tests are more expensive both to administer and to grade, two reasons often cited for using the traditional computer-graded standardized test. However, as the country becomes increasingly concerned with our children's ability to compete in the global marketplace and thus the effectiveness of the educational process, such forms of testing will serve to further reinforce the commitment to truly educating students in a fashion that serves both the individual and the community.

(See: Results in Education: The Governor's 1991 Report on Education; Educating America: State Strategies for Achieving the National Education Goals)

Physical Facilities

As traditionally suburban or rural areas have grown in recent years, school systems have had to cope with capital shortfalls and population increases. Localities have courted population and employment growth, leaving school facilities bearing the burden of large increases in the school-aged population. In many localities, particularly sunbelt states, the local school districts were ill prepared and equipped to handle what appeared to many as an instantaneous population explosion. Older buildings in need of renovation and the demand for more facilities have left school districts struggling to accommodate growth. At the same time, limits on class size mandated either through union contracts or state standards, requirements to meet special needs students in separate facilities, and technological innovations further hampered local districts' efforts to deal effectively with the burgeoning school age population. While many state agencies assist local districts in the educational aspects of operations, capital programs have traditionally remained the responsibility of the locality. As a result of this capital funding crisis, however, many states have implemented programs to assist school districts in their efforts to accommodate larger enrollments without having to sacrifice the quality of the educational instruction. As of 1989, ten states had considered various approaches to funding new school construction or to better accommodate more students

in existing facilities. Some of the state and local initiatives to accommodate overcrowding in schools include:

- Wisconsin has initiated an "aging schools" program whereby the cap on local borrowing is raised from \$5,000 to 1.5 percent of the property value for local projects that require voter approval.
- Florida has recently decided to allow districts to enter into lease-purchase agreements to acquire school buildings without voter approval.
- Georgia is using capital outlay funds to provide incentives for the consolidation of nearby districts.
- Hawaii, New York, Washington and West Virginia have all set aside funds to assist local districts in capital outlay programs over the next ten years.
- Utah has used sanctions and incentives to slow school construction in favor of a year-round schools program where school are used on a rotating basis throughout the year. As a result, the school is able to accommodate more students without overcrowding.
- New Hampshire is using incentives to encourage school districts that cooperate with one another and has committed to giving local districts school construction aid at a rate of 35 percent of the cost of said construction.

With these programs have come initiatives at the state level to encourage fuller use of school facilities as well. As states become more responsible for the capital outlays involved in the educational process, they are exerting a greater influence over local districts to ensure that these public buildings are used to the fullest extent possible by as much of the population as possible. Some states have worked to encourage the lengthening of the school day and/or year, while others are encouraging the use of school facilities as community centers for the general population or daycare centers before and after school for latchkey kids. These programs are being fostered in a variety of ways, from start-up grants in Delaware to an easing of the restrictions on the use of schools as daycare facilities in Indiana, South Dakota and West Virginia. Utah has recently completed a master plan on the state level for community education to increase the use of its school buildings. (See: Results in Education: The Governor's 1991 Report on Education; "Why Year Round School?", as excerpted from Executive Summary of Special Meeting of the Chesterfield County School Board, Central Office and Local School Administrators)

APPENDIX B
NATURAL ENVIRONMENT CASE STUDIES

NATURAL ENVIRONMENT CASE STUDIES

Wetlands

As increased information about the importance of wetlands becomes more readily available, larger numbers of localities are looking at ways to protect the ones that remain and restore polluted or filled ones. Wetlands protection is often a difficult issue for localities. While maintaining an understanding of the need to protect these valuable resources, localities are also expected to encourage economic growth and development. Examples of some ways government and developers are working together to reconcile these competing interests and improve the quality of development with respect to wetlands protection are included below.

Anchorage, Alaska. With over 30 percent of the remaining undeveloped land in the city covered by wetlands, a comprehensive wetlands management program was developed. The aim of the program is to protect wetlands without choking development. Wetlands were classified in four categories: developable, preservation, conservation and special study.

Developable wetlands can be filled or altered fairly easily and do not require a great deal of time-consuming permitting. Conservation wetlands may also be developed, but approval is granted on an individual basis. Development is normally prohibited in preservation wetlands, and special-study wetlands are those pending further investigation to be classified in one of the other four categories.

In addition to environmental factors as a determinant of the classification status of wetlands, the city also took into account property rights. Wetlands on private property were primarily designated as developable or conservation. Public lands were generally labeled as preservation. The goal of the program was to create a compromise between development and preservation interests, in addition to reducing permit delays and administrative costs. Because the amount of developable land and the amount that must be preserved are divided fairly evenly, there is reduced tension between developers and preservationists. The plan is one that works to protect the environment without ignoring economic interests and benefits from development. (See: Urban Land, "A Quartet of Wetlands Plans")

Chesapeake Bay Critical Area Law, Maryland. Maryland has designated certain portions of the state as critical areas for the Chesapeake Bay. The act covers roughly ten percent of the state's total area. The aim of the program is to concentrate new development in already developed areas and to keep undeveloped areas the same. Local governments are required to

protect important wetlands; buffers (25 feet deep) must be used, mitigation plans must be prepared for unavoidable impacts, and all projects in wetlands areas must be water-dependent. (See: Urban Land, "A Quartet of Wetlands Plans")

East Everglades, Florida. In order to shelter the Everglades from an increasing amount of development pressure in recent years, the State of Florida embarked upon a plan to restore wetlands, maintain water quality, control flooding and protect the Everglades National Park.

Emphasis of the plan includes government acquisition of land under the greatest pressure of development, and restrictions upon development to protect against floods. There is a comprehensive conflict resolution process that includes negotiation, mediation and resolution of disputes concerning data and policy. Actions may also be modified as new information becomes available. Begun in 1985, the committee responsible for the implementation of these regulations has since disbanded, however. A task force remains to continue to acquire land. (See: Urban Land, "The Everglades: Restoring the Natural Balance")

Wetlands Restoration and Replication. Many developers have found that the restoration of existing wetlands often provides an added amenity for development projects in addition to allowing for a smooth project approval process. Replication of simple wetlands in areas off-site or on another part of the site also serves the same ends. Two examples follow: (See: Urban Land, "Three Approaches to Development in Wetlands")

- Bayport Plaza: Developers of this mixed office and hotel project in Tampa have restored polluted wetlands to their original state in what had become an illegal dumping ground. A new, two-acre marsh was constructed in addition to the creation of a six-acre tidal pond. Because of the location of the land, the \$1.25 million spent on this project was well worth the return, leaving the environment in a better state than it was in before development as well as creating economic benefits to the community.
- Westford Corporate Center: Located outside Boston, this project relies heavily upon wetlands as a development amenity. While wetlands covered one-eighth of the 18-acre site, only 1.5 acres had to be filled and replicated. Development was centered around the areas that were not covered by wetlands, and the 1.5 acres of wetlands were replicated on-site in another area. Total replication cost was only \$10,000.

Tree Preservation

The New Jersey Pinelands Commission. The State of New Jersey created the Pinelands Commission to oversee the development and protection of almost 1,500 acres of forested area in the southern portion of the state. The commission created a land use management system that protects Pinelands ecosystems by reconciling the interests of municipal, state and federal government; preservationists; and developers. The plan was approved in a relatively short period of time, primarily because of the authority the commission was granted. While there have been serious economic impacts upon private land-owners and local tax bases, development has not been stopped. Rather, development has occurred within the region but primarily outside of the protected areas. During its first eight years in effect, only 167 residential units and only 50 industrial applications were constructed within the preservation district. (See: Protecting the New Jersey Pinelands: A New Direction in Land-Use Management)

Air Quality

Los Angeles and the South Coast Air Quality Management District (AQMD). Despite recent setbacks at the state level, the city of Los Angeles has formed an Air Quality Management District and remains at the vanguard of local solutions to air quality problems. The AQMD has recently implemented a long-range plan for smog control through the next 20 years. The program is structured in three tiers or priorities, with measures for meeting the priorities.

The priorities for the short-term rely on existing technology; for the mid-range on improvements in existing technology; and for the long-range, priorities rely on major technological breakthroughs. Items included in the first two tiers include:

Tier I:

- Use cleaner burning fuels such as methanol and electric power for buses and rental cars.
- Emission controls for pleasure boats.
- Reduction in the use of aerosols.
- Emission controls for refineries, utilities and industrial boilers.
- Tax incentive for employers who encourage employees to carpool.

Tier II:

- Convert 40 percent of passenger cars to cleaner fuels.
- Convert 70 percent of trucks to methanol.
- Convert all buses to cleaner fuels.

- Impose restrictions on driving, driver's licenses, and vehicle registrations; limit the number of vehicles one person can Register.
- Allow more extensive flex time so that fewer workers are working at any given time.
- Limit the number of parking spaces for each office building.
- Encourage teleconferencing.

The last three Tier II priorities and the last Tier I priority are aimed at reducing the amount of automobile emissions by encouraging individuals not to drive. A large portion of air pollution today is a direct result of automobile emissions. (See: Urban Land, "Seeing Through the Smog in LA" and "Taking the Pollution Out of Development")

Solid Waste: Recycling and Reduction

Many states and localities have implemented programs mandating recycling, thus limiting the amount of waste that ends up in landfills. The Commonwealth of Virginia recently passed such a measure and requires that localities increase the amount of waste they recycle by 1991. Ten percent of waste must be recycled by 1991, and this figure gradually increases to 20 percent by 1995.

Montgomery County, Maryland. Montgomery County recently passed legislation that requires the county to recycle 30 percent of household waste. Curbside pick-up is part of the mandate, and requires residents to separate glass, metal and paper from the rest of household waste. The measure was implemented in response to the huge public outcry against building a new landfill in the county. (See: Urban Land, "Trash is In")

Seattle, Washington. In 1987, the City of Seattle set a goal of 60 percent recycling by the year 1998. The city's Solid Waste Utility has launch a voluntary recycling program which levy fees for garbage pick-up that encourage residents to participate. Fees are low for the first weekly can of garbage, however, they become considerably higher for subsequent cans. At this time, 38 percent of the waste stream is now recycled. (See: Governing, "Recycling Life's Debris")

Collier County, Florida. Older landfills in Collier County are being "mined" for reusable materials which saves money, reduces hazards from toxics and lengthens the lifespan of landfills. A machine sorts the contents of the landfills into to four categories: ferrous metals, plastic and wood, large items such as refrigerators, and dirt made of decomposed waste. The dirt is used to cover the landfill and any of the materials that are recyclable are sold. Items retrieved that can not be reused are placed in a new area in the landfill where an improved liner has been installed. (See: Governing, "There's Gold in that County Landfill")

Role of the Private Sector in the Environment

Numerous large corporations have embarked upon environmental programs that may well have as much of an impact (if not more) upon the state of the environment in the future as governmental regulations and requirements. The reason for this shift in perspective outside the realm of mandated requirements made by government is twofold:

- consumers are becoming increasingly aware of and interested in companies and their environmental policies, and
- companies are discovering that spending money now to reduce waste and avoid environmental problems will save much more money in the future.

Measures implemented and goals set by such large multi-national corporations as Bayer, Dow, DuPont, Monsanto, and ICI include the following:

- Increasing the amount spent on environmental protection. Bayer now spends 20 percent of manufacturing costs on protection and Chevron expects to increase its spending in the same area by ten percent per year.
- Working toward reducing and eventually eliminating toxic air emissions, carcinogens and the use of CFCs. Monsanto has a goal to reduce emissions 90 percent by 1992 and then to work toward zero emissions.
- Finding alternative uses for what has traditionally been considered waste or by-products. The paper industry, which used to use 50 percent of a tree and dispose of the remainder, now uses 90 percent with the remainder going back to the land to aid reforestation processes. DuPont has found a use for a by-product of its rayon production. The demand for the by-product now exceeds demand for rayon.
- Many companies are reconsidering their packaging in order to reduce the strain on landfills. Others have changed the materials used for packaging so that they may be recycled more easily.
- Corporations that are seriously concerned about the environment are also putting pressure on the government to pass stricter environmental control legislation and encourage better global management of the environment. When the U.S. government refused to aid developing countries in switching to alternatives to CFCs, DuPont put pressure on the government and the aid package was passed.

(See: The Economist, "Cleaning Up: A Survey of Industry and the Environment")

APPENDIX C
TRANSPORTATION CASE STUDIES

TRANSPORTATION CASE STUDIES

Public-Private Partnerships

As transportation funding becomes more difficult for localities to secure, many have begun to look to the private sector for assistance. By encouraging employees to participate in ride-share programs and use mass transit, the private sector can decrease the demand on overburdened highways. Increasingly, the private sector is also being sought as a potential source of funding for transportation improvements and maintenance. Public-private partnerships to solve transportation problems come in two forms: the traditional privately owned and operated toll road, bridge or tunnel; and the newer transportation management association.

Private Ownership and Operation Traditionally, many toll roads, bridges and tunnels were built and funded through the private sector. The Brooklyn Bridge was totally privately owned and operated. The proliferation of federal funding, however, sparked a move away from this type of transportation project since toll-free roads could now be built with the federal government picking up as much as 90 percent of the bill. Cut backs in federal transportation spending have caused several areas to look at public funding options. Denver, Colorado and the State of California are now considering or actually using toll roads to cover the growing cost of transportation construction.

East-470 Authority: Denver has begun a beltway project using bond funding supported by toll receipts. The project is expected to cost \$575 million and will be supported in part by an anticipated \$4.3 million in annual toll receipts. While the State did play a role in granting eminent domain, the majority of the almost 50-mile right of way has been granted by property owners.

Transportation Management Associations Transportation management associations are used for three essential functions:

- 1) the coordination of employers' and developers' traffic mitigation efforts;
- 2) financing or assisting in the financing of needed capital improvements; and
- 3) providing a focus for private sector concerns regarding transportation in an area.

However, it is important to note that they are not limited to these functions and in many areas the scope of their services is much larger.

TYTRAN: While not technically a TMA, the Tyson's Regional Transportation Authority, located in Northern Virginia, provides business leadership on transportation issues. Through \$40 million in employer and developer contributions, TYTRAN has been able to provide leadership in setting up ridesharing programs and other improvements in the transportation system.

DATA: DATA, the Dulles Area Transportation Association is technically a transportation management association. The association is currently working to support a private corporation's proposal to extend the Dulles Toll Road into Loudoun County. Additionally, DATA is actively involved in a proposed light-rail line that would connect Dulles airport to the Washington, DC subway system.

(See: Transportation Management through Partnerships)

Cooperation and Multi-Modality

New Jersey Fragmentation within many state transportation systems has caused a great deal of problems when planning for new, multi-modal systems. In response to this, New Jersey Governor Florio has implemented a program that works to unite the various transportation authorities within the state. The Transportation Executive Council is charged with the difficult task of coordinating the toll road authorities, other transportation agencies and NJ Transit in order to prepare a comprehensive, multi-modal transportation plan. This approach recognizes the need for coordinated plans using various means of transportation rather than just focusing upon highways.

San Francisco Bay Area The San Francisco area counties have formed policy bodies to levy sales taxes to fund transportation projects. The process resulted from the Proposition 13 cuts in state transportation aid to local areas and five of the nine counties in the metropolitan area are involved. Thus far, \$4 billion in new projects have been funded by the voter approved taxes.

Maryland DOT The Maryland Department of Transportation has control over all modes of transportation in the state. This lets the state concentrate on the mobility issue rather than worrying over whether funding for state projects will go to highways or mass-transit. Money for needed improvements in one mode of transportation may be borrowed from another mode's tax or toll receipts. This was the case with needed improvements to BWI Airport which were funded through highway toll revenue. (See Governing, Transportation: "Planning for the Future")

Growth Management and Transportation

Contra Costa County Contra Costa County, California, a suburb of San Francisco, is known for its transportation problems despite partial service from the BART mass transit system. In 1987, a transportation partnership commission was formed in response to a voter defeated tax referendum to sponsor transportation improvements. Composed of component municipality and county officials, the commission formulated a growth management plan that would be tied to sales tax revenues approved by the state legislature. A much needed countywide growth management plan that maintained respect for local authority over land use issues evolved. In order to receive a portion of the tax revenues, jurisdictions must observe these guidelines:

- Adoption of a growth management element in the general plan that includes traffic level service standards and performance standards.
- Traffic level service standards keyed to the type of land use with rural land use requiring the highest standards of service (least amount of congestion). Standards gradually decrease with the intensity of land use.
- Performance standards for public facilities, fire and police protection, parks, sanitation, water and flood control.
- Use of development mitigation programs to ensure that new growth pays its share of the associated costs.
- Participation in multi-jurisdictional planning to reduce impacts of regional development.
- Five-year capital improvement standards to ensure that service standards are achieved and maintained.
- Housing and employment issues addressed as they relate to transportation demand on a regional, subregional and city basis.
- Steps taken to reduce single-occupant vehicle travel.

An additional sales tax referendum was again presented to the citizens of the county, contingent upon the implementation of the program. The referendum passed by a large margin in 1988, allowing for a one half-cent sales tax to go into effect to assist in transportation funding. (See: Urban Land)

Alternatives to the Automobile/Truck

As secondary roads and highways become more and more congested, many localities are looking toward new technology to increase

mobility. Three such programs highlight aspects of transportation as a means for moving both people and goods.

High-Speed Rail Florida is one of the leaders in this area, actively encouraging the use of new technology. By 1995, there are plans to have a 325-mile high-speed rail line in place. The line would connect the cities of Tampa, Miami and Orlando. Additionally, there are plans for a new "Maglev" train to be built connecting the Orlando airport to Disney World, 17 miles away. The Maglev train operates by magnetic levitation, moving the train above the ground without friction. Capable of speeds greater than 300 miles per hour, the train is competitive with air transport for distances of less than 800 miles. The rail line is expected to open in 1994 and will be one of the first in operation.

Intelligent Vehicle Projects Since most "airborne" traffic reports reach drivers too late to allow them to avoid congestion, many transportation engineers are looking into on-demand information so motorists can choose another route and avoid contributing to already congested traffic. In Los Angeles, a "smart corridor" is being tested between the City and Santa Monica. Test drivers have a cassette or compact disk system that lets them know of alternative routes to their destinations to avoid traffic congestion. Critics contend, however, that smart corridors are only as good as the roadway system. If there are no alternative routes, knowing where the congestion is will be of no use. Testing of the system began this fall (1990).

Rail Freight In order to improve their competitive position, some states are experimenting with "Road Rainers." Road Rainers are trucks equipped with retractable steel wheels for rail use. Additionally, flat cars are now proving to be effective in hauling containers of freight to and from seaports. Virginia has built an "inland port" at Front Royal, in the northwestern part of the state, where truck freight is converted to rail lines for transportation into Hampton Roads. Since traffic congestion closer to the coast increases trucking costs, the facility has proven to be an effective means for reducing truck traffic and lowering freight costs. (See Governing, Transportation: "Planning for the Future")

APPENDIX D
GOVERNMENT STRUCTURE CASE STUDIES

GOVERNMENT STRUCTURE CASE STUDIES

Commission Form:

- Oldest form of county government
- Consists of elected representatives from prescribed voting districts. There are normally three to seven districts, however, some states have as many as 57 districts located within one county.
- Commissioners, or supervisors, are usually part-time elected officials and share the responsibility of making all of the administrative, legislative and executive decisions involved in running a county, with several independently functioning elected officials such as a sheriff, clerk, or treasurer (these offices are often referred to as row offices).

Advantages:

- This is the oldest form of local government and, as such, the "tried and true" philosophy is often cited as a great benefit to alternatives.
- This form of government is viewed as the most democratic form of local government in that government administration is carried out by elected department heads and thus, is ostensibly closer to the people.
- Since officials are independently elected, this form provides a broader form of checks and balances. It decreases the chances of a totally corrupt local government.

Disadvantages:

- This system is criticized as being too antiquated to properly address the changing needs of and demands upon local governments.
- Many view the lack of a chief executive as the primary cause of local government inefficiency in providing adequate services.
- The increased level of technology and higher degree of sophistication of local population bases require a greater degree of government professionalism than can be offered by the part-time citizen legislator.

- Responsibility in the commission structure is diffused in such a way that accountability is often difficult to establish and maintain vis-a-vis public officials.

Council-Administrator Form:

- Form currently used in Chesterfield County, as well as the majority of counties in Virginia.
- Elected commissioners/supervisors such as those described above are responsible for making policy decisions and appointing an administrator to carry out those legislative policies.
- Administrator is also responsible for hiring and firing department heads, however, some counties still elect certain row offices. An administrator may also have policy input into the elected board's decisions.
- All administrators serve at the will of the elected governing board and may be removed from office at any time.
- Two basic variations of this form have evolved: the weak administrator and the strong administrator. The weak administrator is the form which predominates in Virginia.
- Under the strong form, the administrator has a certain degree of policy making power in that s/he proposes legislation, as well as preparing the budget and hiring and firing department heads. In Virginia, an appointed official with such power is referred to as a county manager rather than an administrator.
- Under the weak administrator, the administrator is primarily responsible for carrying out the policies of the elected board in addition to preparing the budget and hiring/firing department heads.

Advantages:

- As a civil servant, the administrator is better equipped to implement the policies of the local government in a professional fashion.
- The executive and administrative functions of government are separated in such a way that each works more efficiently and expediently.
- Transition to this form of government from the commission form is usually relatively easy, in

that it is not a dramatic departure from the original government structure.

- Once freed from the shackles of administrative decision-making, the elected body has more time to devote to developing effective policy.

Disadvantages:

- The appointed administrator is less effective in shaping public opinion and providing leadership than a directly elected public official.
- The administrator is at the mercy of the whims of a political body.
- Part-time elected officials depend upon an appointed administrator for information concerning critical county issues.
- The professional administrator may be too removed from the local population to understand and remain sensitive to the specific community.

Council-Elected Executive Form:

- Similar to the strong administrator version of the council-administrator form of government, except that the elected executive serves as the formal head of the local government.
- The elected executive has formal veto power over the council, which then can be overridden by the council.
- Policy role of the executive is better defined and understood by the local residents, as well as the elected council.
- The elected executive maintains the administrative duties that an appointed administrator must undertake in addition to policy making decisions.
- Similar to the city council-mayoral form for city governments.

Advantages:

- Policy making is visible and accountability is clearly defined in the eyes of the constituency.

- Executive provides strong leadership in areas where there is a diverse population base with varied and sometimes conflicting views.
- Elected executive must be responsive to the public will rather than the commission.
- Creates a superior system of checks and balances within the local government.

Disadvantages:

- Having an elected executive tends to concentrate political power.
- Too much is demanded of an elected executive: must be an adroit politician and an effective administrator.
- Fosters executive-legislative conflict which then causes a lack of expediency in government.
- May increase costs due to the need of the executive to hire more specialists for assistance in daily operations.

City-County Consolidation Form:

- As outlying areas gain in importance to a city's regional or area-wide economy, this form of government structure has received increased attention from governmental policy makers.
- As counties grow and become more like the urban areas they surround, it is often perceived as more efficient to combine the governments, and thus the provision of services, under one authority.
- The types of cities and counties which have successfully implemented consolidation agreements vary from rural counties and cities in the west where large land areas and sparse populations make consolidations practical; to counties in Virginia where the existing legal framework for consolidation is enhanced by an annexation and independent city system which leads counties to consolidate for fear of otherwise allowing the erosion of their tax base, population and influence; to metropolitan counties consolidating with their central cities.
- Consolidation may take the form of either a complete unification of county and city, or

service agreements where the two autonomous areas agree to share the burden of providing services to residents in both areas under one organization.

- The latter system is often the politically more palatable form of consolidation and is frequently referred to as partial consolidation.
- This form of government also represents a change in the trends of roughly twenty years ago when local government was moving toward smaller forms of government such as independent towns within a county. The newer trend reflects that small jurisdictions are no longer able to meet the huge demands that high growth rates and changing social structures have placed upon localities.

Advantages:

- Consolidation often leads to a higher level of service provision for residents. Services are generally upgraded and expanded more easily under consolidation due to the lower relative cost of one organization providing services to a larger number of residents.
- Local dependence on tax revenue has stabilized and, in some instances, decreased after consolidation. Many localities cited that after consolidation they were able to increase levels of state and local funding and to rely on nonproperty and nontax revenue sources more heavily.
- Some areas cite an increased level of political accountability after consolidation due to higher levels of visibility for local officials.
- Long-range planning and growth management is often facilitated by consolidation due to an area's increased ability to manage and control the "whole picture."

Disadvantages:

- Many areas that have consolidated have had difficulty in resolving problems of equitable representation on the council. Minority political interests often strongly oppose consolidation due to fears that it will further dilute their voice in the political arena.

- In some areas, expanding service districts has been difficult and has resulted in the proliferation of special districts within the consolidated system. Suburban areas often feel that a consolidated system stifles physical and economic development in that portion of the municipal district.
- Critics often cite that questions of equity in the area of financial resources have not been dealt with in an honest, substantial way.
- Counties or suburban areas often cite that they ultimately must bear the majority of the financial burden of providing services to the community at large.

Dillon Rule Versus Home Rule

As a result of the Dillon Rule described in Section VI, many localities have had to petition their state legislatures for more power over local affairs. The formalization of county efforts to increase their power over issues of local concern is referred to as the Home Rule Movement. Home rule generally follows two forms, which are briefly described below:

Imperium in Imperio (State within a State)

Under this doctrine, localities are given the authority to amend their charters and have the ability to operate outside the realm of state control in areas that are deemed to be inherently "local" or "municipal." The definitions of such terms, however, are subject to judicial interpretation and the state does retain the power to restrict local authority through legislative powers.

Devolution of Powers

Devolution of powers is the most absolute reversal of the Dillon Rule. Where this doctrine has been implemented, states have dictated, either through legislation or constitutional provision, that any power not expressly forbidden as such by the state may be exercised by local government.

While home rule authority appears on the surface to be in sharp contrast with the Dillon Rule, the degree to which this is true varies. First, in some states not all localities are afforded the opportunity to have home rule powers. In these cases, state legislatures require that a locality petition for home rule status and that it be subject to voter approval. Secondly, in both types of home rule, states may limit the amount of power given to the locality through legislative decree or

constitutional provision. Therefore, the amount of leadership authority localities may exert over local issues depends ultimately upon the will of the legislature.

There is, however, one glaring example of an efficiency gain through home rule. The time and resources counties and states devote to the securing and granting of authority through the enactment of legislation under the Dillon Rule are saved under the doctrine of home rule.

(See: County Government Structure: A State by State Report; The University of Virginia Newsletter, "Home Rule in Virginia: Perception and Reality")

Neighborhood Councils

One of the fundamental underlying principles of local government rests with an image of the New England Town Meeting, or democracy in its purest form. As the governmental entity closest to the citizenry, local government is expected to be the forum in which all citizens have a voice, where all views are taken into account in the decision-making process. In many fast growing suburban and large urban areas, however, population increases have placed a huge strain on this fundamental principle of local government. Population growth and the ensuing urban and suburban sprawl have strained both municipal operations and the ability of local officials to serve the whole population in an informed, responsive fashion. In response to their frustrations concerning issues such as infrastructure funding and land use controls and growth management, citizens in many localities around the country formed grassroots organizations to enhance their ability to petition the local government. Clauses in many federal programs for improvement or revitalization projects required increased citizen participation in the decision-making process. These projects caused the formation of groups or councils of citizens in affected areas within a jurisdiction.

The result of these trends has been the neighborhood council or association. Neighborhood councils are smaller organizations covering a portion of a local jurisdiction designed to petition the local government. They may cover only a few specific issues of concern, or they may work with the local elected officials on an ongoing basis. In some locales, there are neighborhood councils for every portion of a jurisdiction and in other areas these organizations exist only where the level of citizen concern and involvement merits them. Generally, neighborhood councils have been most effective, however, where they are permanent structures and where the whole, or at least a majority, of a locality is covered by various councils. Their longevity of neighborhood councils directly affects their ability to influence the decision-making process within the local government. Councils that exist on a permanent basis and cover numerous issues are perceived as somewhat more legitimate

by elected officials as they are entities with which officials deal on a regular basis. In order to ensure that they are not considered by portions of the population as undemocratic special interest groups or local political action committees, neighborhood councils generally work best if they cover all neighborhoods within a municipal jurisdiction.

Properly structured and administered, neighborhood councils have been an effective means of increasing citizen involvement in the political process. These groups first entered the political arena in significant numbers during the late 1960s and early 1970s, in the days of high levels of federal participation and assistance in local affairs. In many areas, however, neighborhood councils serve as an example of a quasi-governmental structure that can both weather and assist government in the modern age of cutbacks and fiscal restraint. When effectively implemented, neighborhood councils or associations provide citizens a forum for their concerns as well as providing elected officials with needed citizen input on specific issues.

Office of Neighborhood Associations; Portland, Oregon

Portland, Oregon's Office of Neighborhood Associations and its neighborhood association structure provide an example of a grassroots program that has successfully maintained its position within the community while serving the populace on a broad range of issues. Neighborhood associations began for a variety of reasons in Portland. The federal Model Cities Program required that they be formed for specific areas within the city, leading to the formation of eight model associations. This was further enhanced by a tradition of grassroots organization in Portland to air citizen concerns with zoning and commercial development. Finally, the city's bureau of planning, in response to zoning concerns aired by citizen's groups, decided to help residents set up groups. This final occurrence in the history of citizen's groups in Portland fostered a relationship between city bureaucracy and neighborhood groups that led to the formation of the Organization of Neighborhood Associations.

The Organization of Neighborhood Associations is a formal bureaucratic branch of the city government existing within the Department of Public Safety. The organization is designed to assist and oversee the operation and function of neighborhood associations in Portland. Reflecting the commitment to and an understanding of the need for citizen input on a regular basis, elected city officials have supported neighborhood associations through a commitment of administrative time, money, and support for the Organization of Neighborhood Associations (ONA). The ONA also provides a broader perspective for individual neighborhoods on issues such as land use and zoning where more than one neighborhood may be affected. Specific components of the ONA and neighborhood associations in Portland include:

- Over 90 percent of Portland's area is covered by neighborhood associations, all of which are linked by the ONA.
- In addition to the ONA itself, neighborhood associations are served by five district or branch offices.
- Although they receive support from the ONA, neighborhood associations are operationally independent from the city government and operate as non-profit groups.
- Organization of a neighborhood association is open to any neighborhood in the city, contingent upon their meeting certain minimum standards. Minimum standards include:
 - Membership must be open to all individuals.
 - Dues may be collected, but must be on a voluntary basis.
 - Formal dissent processes must be created and adhered to. Dissenting comments must be submitted to the city council along with the neighborhood association's recommendations.
- Some neighborhood associations have formal grievance processes where individuals who disagree with the decision made by the association may petition the city council. The city council then acts as an arbitrator between dissenting groups within the neighborhood association.
- Issues addressed and services provided by Portland's neighborhood associations include:
 - neighborhood crime prevention programs;
 - review of and recommendations on city codes and license requirements;
 - neighborhood need reports and requests for action to responsible city agencies;
 - budget advisory committees where citizens review the operational efficiency of city agencies and make recommendations pertaining to such;
 - emergency assistance to increase communication about neighborhood needs during disasters/emergencies; and
 - neighborhood-level service delivery.

Portland's history of citizen involvement and the commitment to it on the part of city officials have led to a successful

neighborhood association program. A broad base of citizens are involved in neighborhood associations performing both advisory and service provision roles. The decentralized structure of neighborhood associations further contributes to the success they have met in communicating views on a broad range of issues to the local government. The flexibility with which neighborhood associations operate has allowed them to change with the issues and adapt to new conditions. Most importantly, however, is the fact that neighborhood associations and the ONA have proven that concerned citizens can have an effective voice in local government and contribute substantially to the well-being of their community. (See: A Framework for Citizen Participation: Portland's Office of Neighborhood Associations)

Consolidation

The city-county consolidation form of government is but one form of consolidation that can occur in the realm of local government. This form of consolidation in its strictest sense is often difficult to get approved and to implement. Government officials and residents in the smaller jurisdiction are normally reluctant to accede power to a larger governmental body, fearing a loss of their voice in local government. However, in many fast-growing metropolitan areas, this type of local government has been viewed as the only option through which local services can be provided efficiently.

Examples of areas that are city-county consolidations include: (See: Consolidation: Partial or Total)

- Indianapolis-Marion County, Indiana. This is the only example of a consolidation that was mandated by the state legislature rather than the result of the localities concerned petitioning for the right to consolidate. The consolidated government in this example is structured with a mayor who presides over 29 council members. Twenty-five of the members represent magisterial districts and four are elected at large. The council has the conventional legislative and budgetary powers found in most county and city governments. Each public services department serves the entire consolidated area. Department heads are appointed by the mayor and sit as members of a departmental board that also consists of two mayoral and two council appointees. This board is responsible for overseeing the various public agencies. While some minority interests, particularly those in the outlying areas of the consolidation, complain that their voice has been diluted, the general feeling about consolidation in Indianapolis is positive. A greater level of public service has been provided to all individuals in a more efficient and cost effective manner.

• Dade County, Florida. Completed in 1970, the Metropolitan Dade County consolidation is a partial consolidation. The city government shares power with over 20 municipalities and serves as the only local government in unincorporated areas. The area is served by a nine-member council presided over by a mayor, but municipalities have retained some power, and also have their own governments. In recent years this consolidation has been difficult to manage, however. One of the powers retained by the municipalities has been that of planning and zoning. As the area has grown in recent years, the lack of a coherent policy on such matters has placed strains on both the consolidated government and the municipalities. At present, municipalities are being encouraged to merge in order to decrease the number of small governments existing within the system and there has been a general push toward increasing the consolidated government's power.

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